

AUGUST 15, 1960

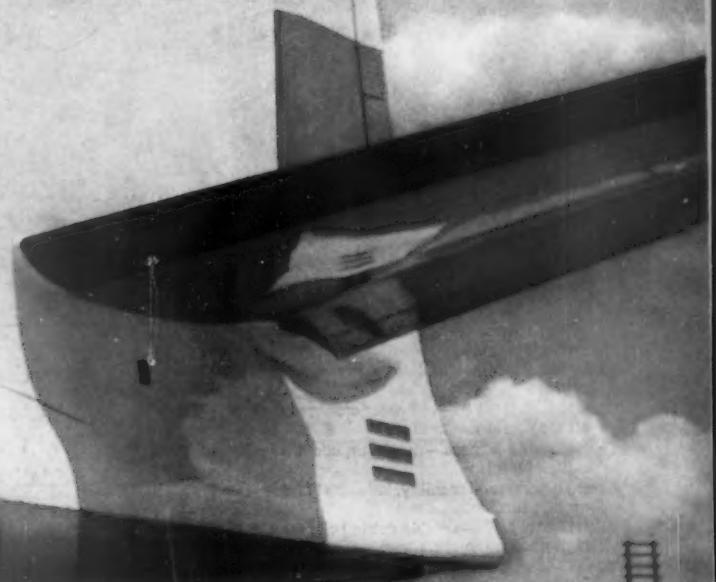
PURCHASING

The Methods and News Magazine for Industrial Buyers

Materials Management in the Space Age

See p. 70

N2712R



Fairchild Aircraft

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Table of Contents... Page 5

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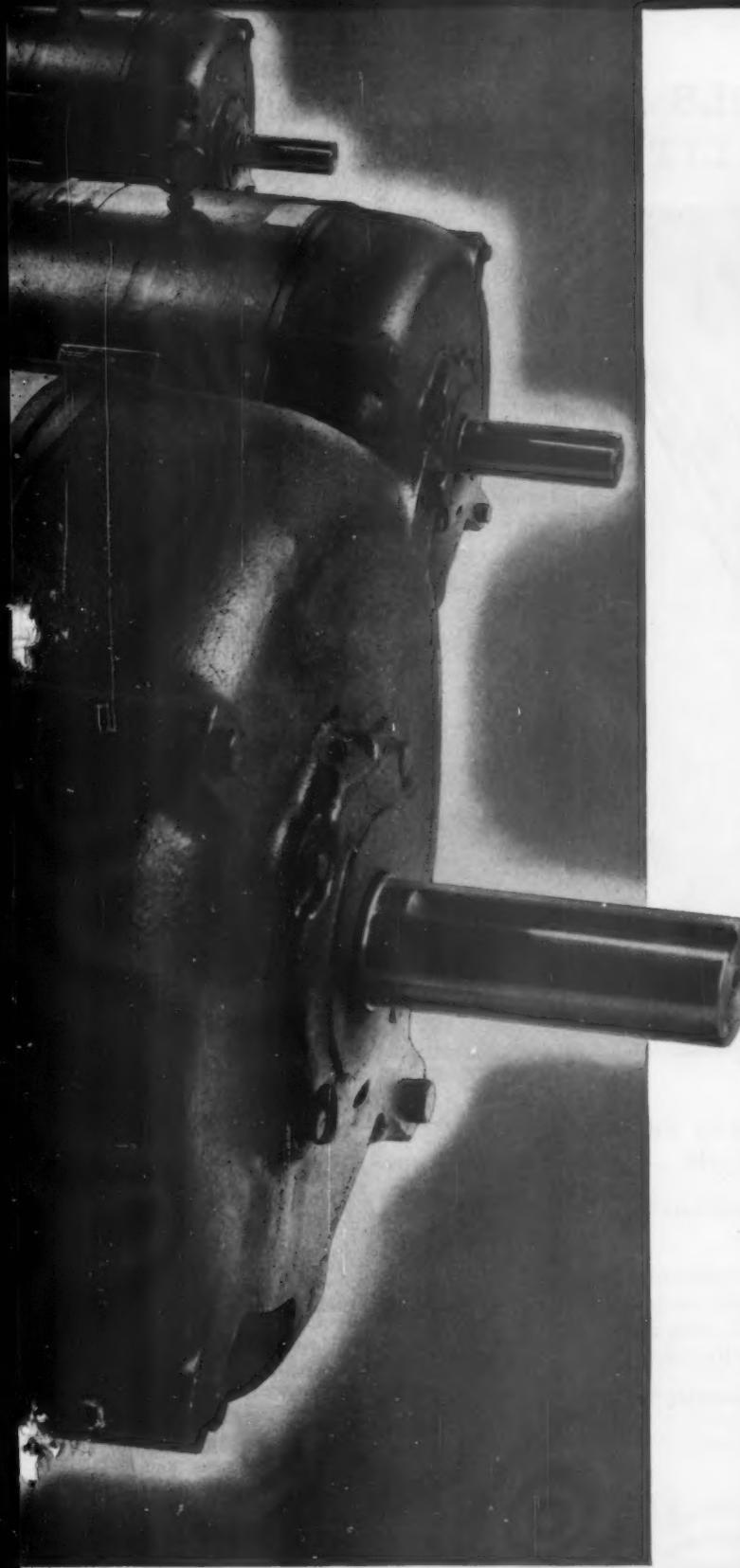


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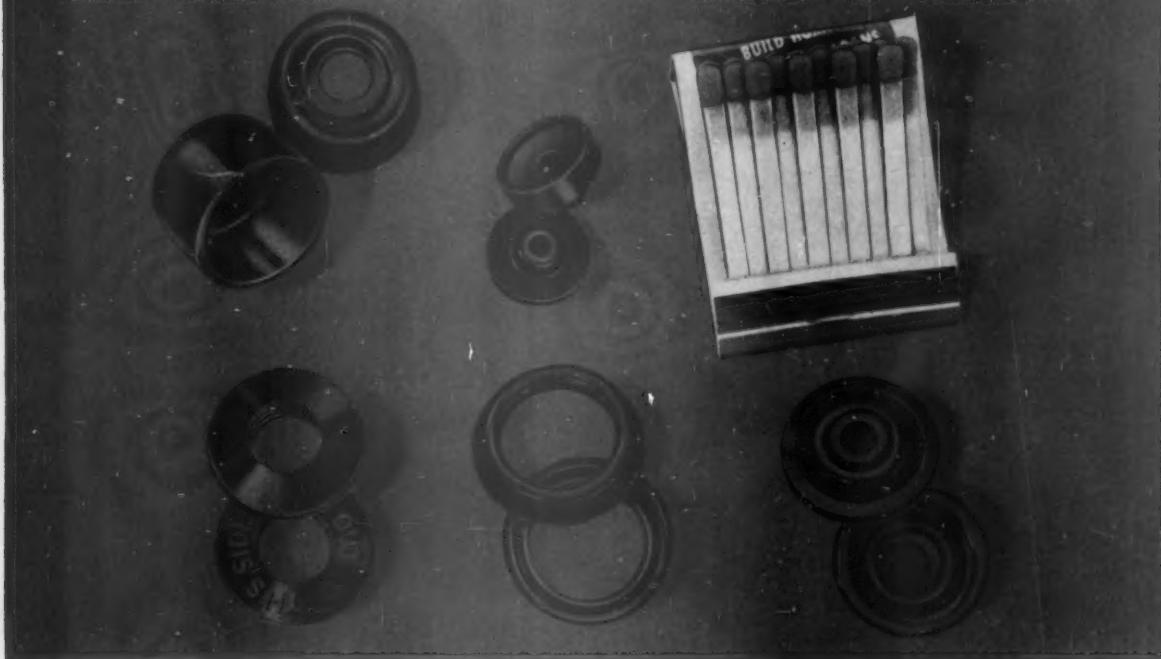
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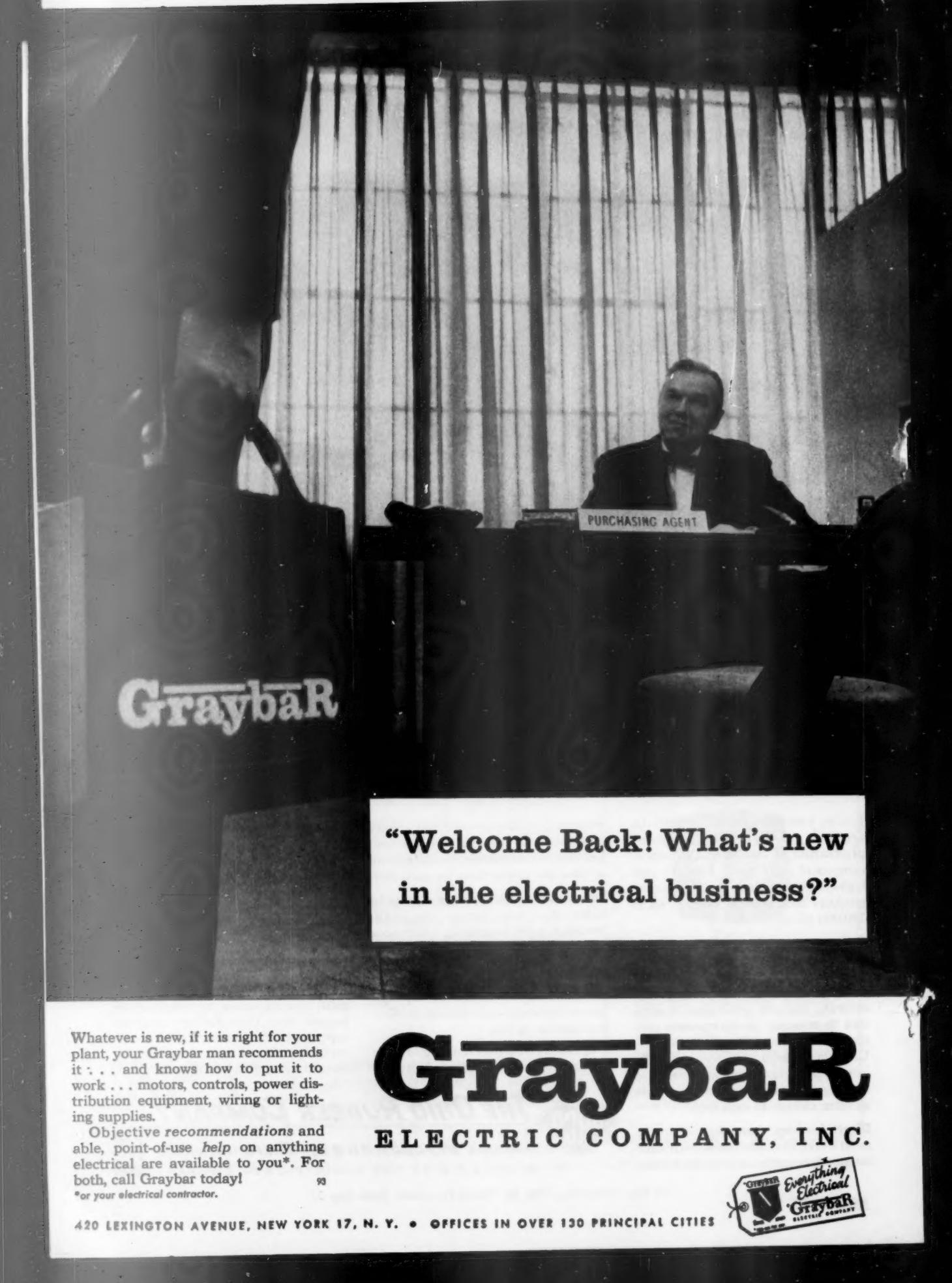
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PURCHASING

The Methods and News Magazine For Industrial Buyers

AUGUST 15, 1960

VOLUME 49, No. 4

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Pulse of Business	7
The P. A.'s Outlook	13
Price Trends	15
Sales, Inventories, New Orders	19
Washington Report	21
Purchasing Pointers	67
Editorial: The Lid Is Off	69
Materials Management in the Space Age	Dean Ammer 70
Reporting to Management: Why and How	D. Francis Finn 76
Top Place for Purchasing Aids Company Success	79
How to Solve Your Storekeeping Problems	Fred C. Wood 84
Recent Decisions in Purchasing Law	Albert Woodruff Gray 87
Precision Castings Get Bigger and Better	90
Transparencies for Projection Made in Minutes	James LeMay 128

REGULAR FEATURES

In Purchasing	65
Purchasing Follow-up	27
Information for Your Catalog Files ..	44
Letters to the Editor	50
Purchasing People	59
F.O.B.	62
Products and Ideas	90
Index to Advertisers	170
Office Equipment and Supplies	128
Association News	138
Industry	154
News	154
Book Reviews	157
Employment Service	168

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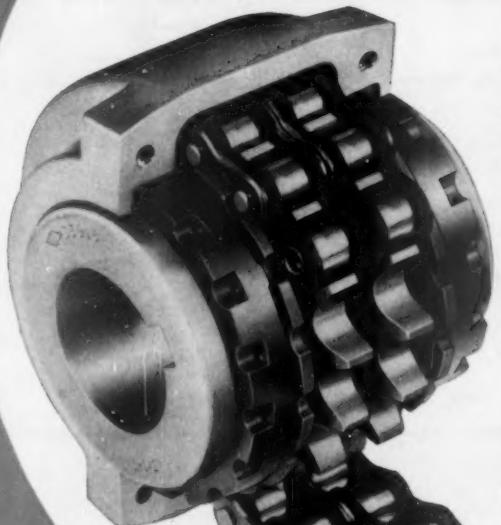
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Pulse of Business

U. S. Has Trade Surplus in 1st Half

Exports Could Top \$19 Billion for Year

DESPITE the hullabaloo over the increasing flood of imports into this country, one significant fact stands out: in the first half of 1960, the United States had a trade surplus of about \$2 billion.

This favorable balance of trade was four times as large as the one in the first six months of last year. And it marks the highest surplus since the big export explosion in 1957.

Preliminary figures compiled by the Department of Commerce show that commercial exports in the first half totaled \$9,630,000,000. In the same period, purchases of foreign merchandise came to \$7,630,000,000.

In addition, Commerce Department officials are quite optimistic about U.S. trade for the remainder of the year. Earlier, they predicted exports of slightly over \$19 billion and imports of \$15.2 billion to \$15.5 billion for 1960. They are still holding to these estimates.

Imports for the second quarter ran at a seasonally-adjusted annual rate of \$15.8 billion. While this was slightly above the rate in the previous quarter, it was just about equal to the same period of 1959. Imports last year totaled \$15.2 billion.

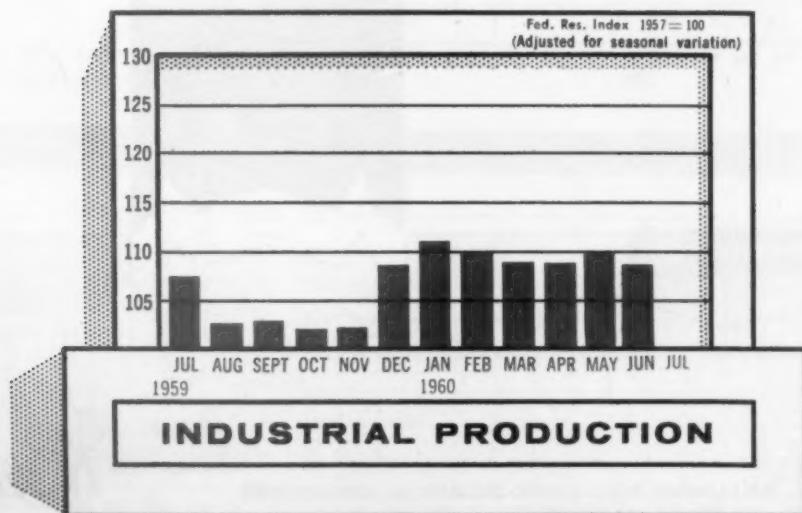
On the export side, the seasonally-adjusted annual rate in the April-June period was \$19.6 billion. While government analysts don't expect exports to continue at this high rate for the rest of the year, they are sticking to their earlier estimates.

Part of the sharp surge in second quarter exports was due to an increase in shipments of jet airplanes. Other export hikes were noted in copper and steel (In May alone, steel exports hit the highest level since January 1958).

In the month of June, exports were \$1,715,000,000—compared with \$1,792,000,000 in the prior month and \$1,423,000,000 in the same month last year. Imports that month were \$1,322,000,000, compared with \$1,260,000,000 in May and \$1,369,000,000 in June 1959.

(Turn Page)

The FRB's Industrial Production Index dropped a point in June to 109 (1957 = 100). Output declined as durables producers continued to reduce inventories of steel and other metals.



You'll make a better impression with Western Brass...because, tough as it is, ductile solid brass is perfect for coining, embossing or stamping, gives you a glowing natural finish, takes gracefully to buffing or plating when required. And Western Brass—with its uncompromising attitude towards accuracy of temper, alloy, gauge and finish—produces a broad range of copper base alloys in sheet and strip that turn even the most critical of stamping procedures into routine operations. You'll make it better with solid, easy-to-stamp brass. You'll make it best with "tailor-made" Western Brass.



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Western BRASS

Pulse of Business

PRODUCTION

While final import and export statistics could be revised slightly from the preliminary figures, there will certainly be a substantial favorable balance of trade for the first half. Traditionally, these revisions have never been larger than 2% in either direction.

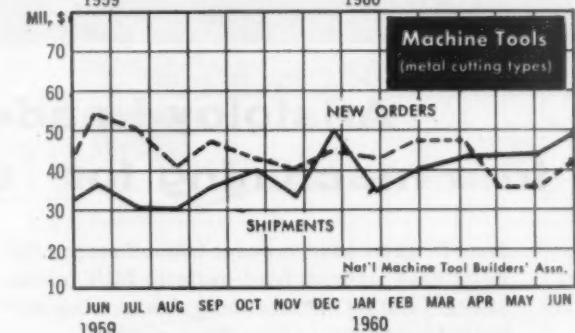
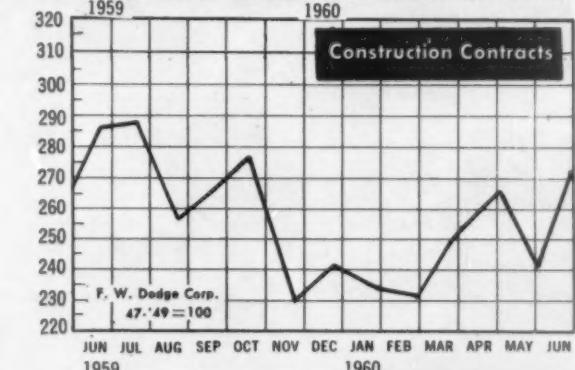
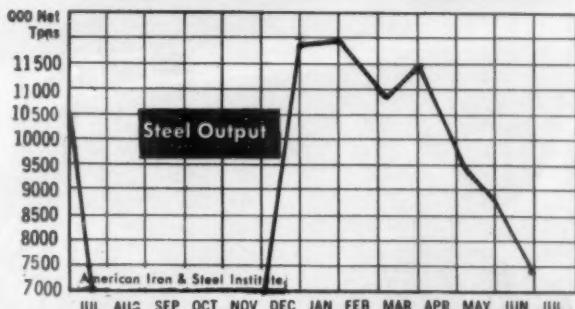
IT LOOKS like there will be a modest increase in employment by mid-September that could help steady the currently faltering economy.

A federal survey, conducted last month, took some soundings on the labor outlook in 149 major market areas. The response indicates a "moderate" rise in the number of positions available. Reason? The usual post-vacation pickup.

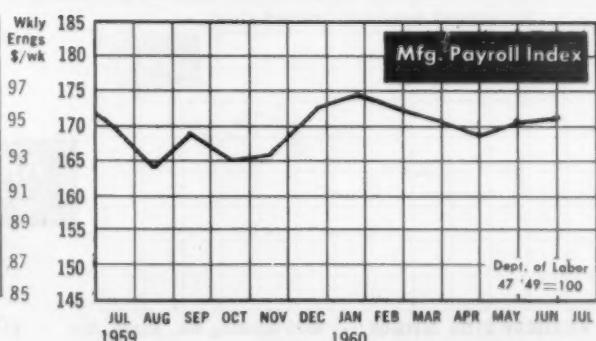
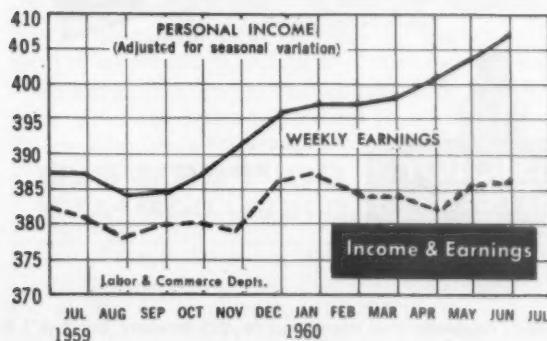
However, the survey results reveal that the employment recovery won't be too sharp in the durables area. Indications are that the extra payrolls won't cancel out the effects of the more-than-seasonal layoffs that took place in durables manufacturing this summer.

The job areas where the most improvement is expected are those which have been doing fairly well up to now. These include nondurable manufacturing (food processing, clothing, and textiles), along with retailing, construction, and services.

Eighty-four percent of the labor market areas surveyed anticipate "overall employment



LABOR



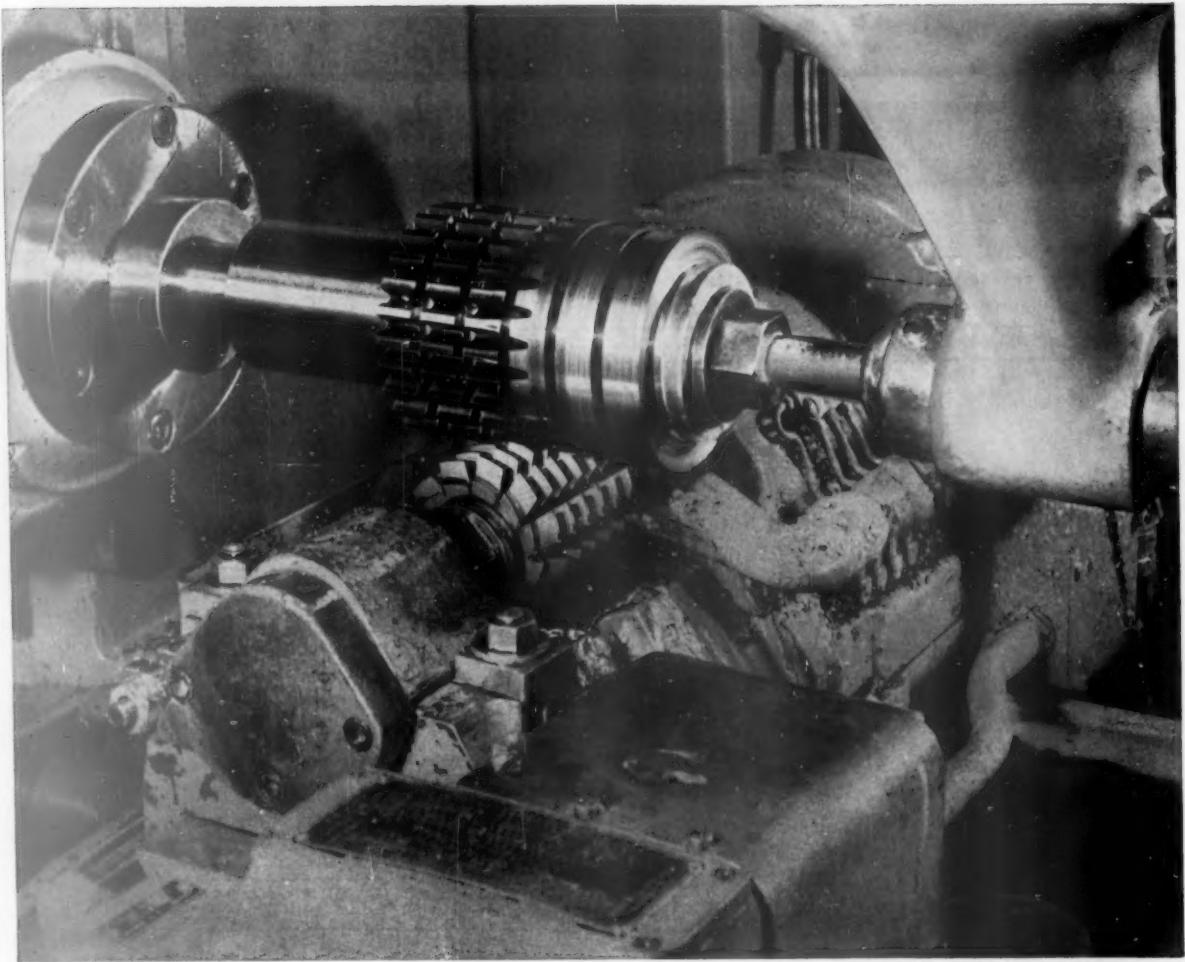


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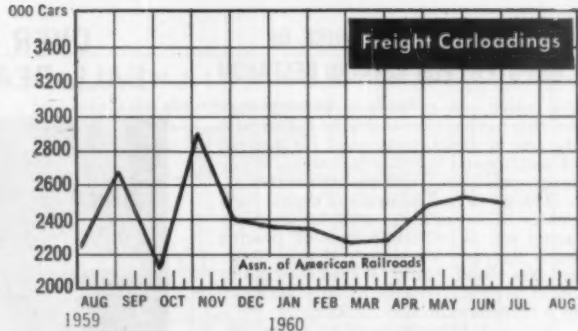
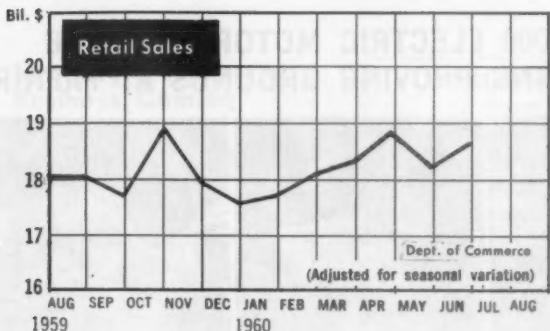


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Pulse of Business



gains" through the next month. And 70% expect to increase production.

According to the report, there will be "moderate employment increases in most automobile centers when initial production of 1961 cars and trucks gets underway." Reports from major steel producing areas indicated steel payrolls will recover to some extent from their midsummer lows, partly as a result of renewed demand from the automobile industry.

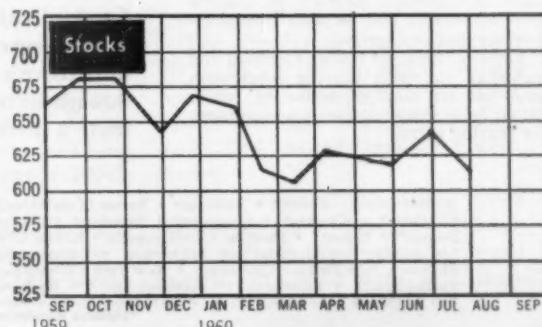
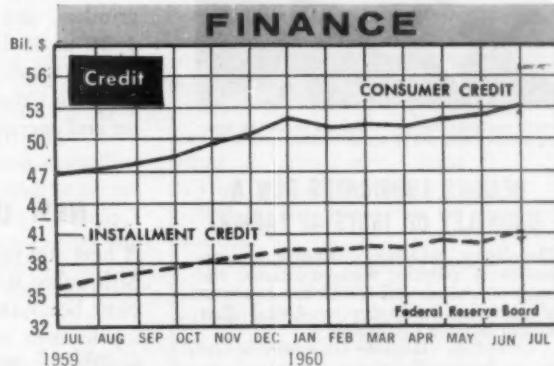
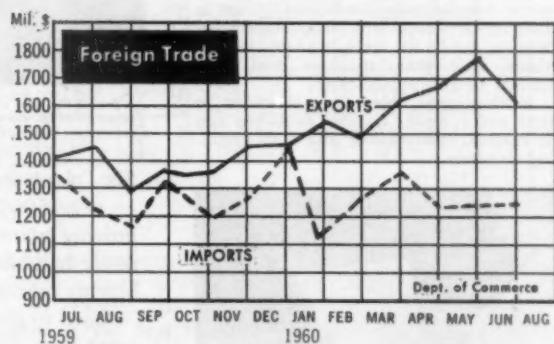
Other industries where employment gains are anticipated are fabricated metals, electrical machinery, food containers, radio, television, electronics, and communications equipment. But continued declines in employment are predicted for the nation's aircraft producers, in spite of the high activity in the missile field.

Presently, there are a number of areas throughout the country with substantial labor surpluses. Three new ones were added in this latest report from the Department of Labor. These are:

The Youngstown-Warren area in Ohio—which was changed from Class C—indicating a moderate labor surplus—to Class E—indicating a substantial labor surplus or unemployment of between 9% and 12% of the labor force.

Paterson, N.J. and Lorain-Elyria, Ohio, which were advanced from a C rating to a D rating, which denotes an unemployment rate of between 6% through 8.9%.

Industry in all three of these areas is heavily concentrated in durable goods. The economic health of these cities—as well as the rest of the United States in the long run—is dependent on the ability of durables manufacturing to come back strong in the fall months.



Bearing Buying Guide

NO. 7



A REPORT ON FAFNIR BEARING DEVELOPMENTS AND DISTRIBUTION ACTIVITIES

FAFNIR PIONEERS USE OF COMPUTERS FOR BEARING RESEARCH

An entire new concept in bearing engineering has been developed by Fafnir with the use of digital computers for analysis of bearing and machinery designs, metallurgy, processing, and quality control.

The speed and accuracy of digital computers in bearing research is strikingly borne out in determination of bearing loads. An early test showed that an entire month's work using a desk calculator could be produced with absolute accuracy in a three-minute computation.

Today, Fafnir engineers are using electronic computers for such calculations as those involved in determining complicated bearing loads in wobble plate mechanisms, helicopter, machine tool, and critical aircraft applications.

With digital computers, solutions to vital and complex bearing problems can be reached immediately and with unerring accuracy.



Fafnir engineer checks calculations in solving bearing problem with aid of digital computer.

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Cleanliness, oxidation resistance, noncorrosiveness, stability, water-resistance, viscosity . . . these and other characteristics of lubricants have a direct and vital effect on ball bearing performance.

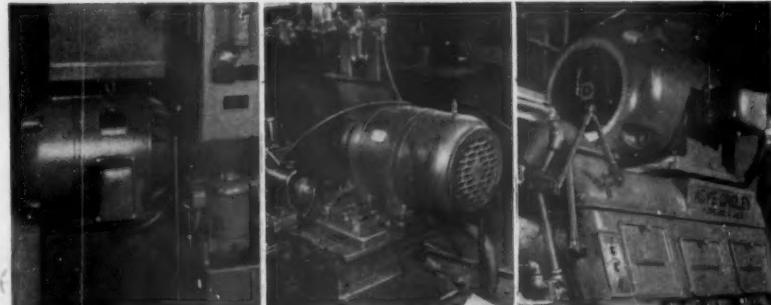
At Fafnir, elaborate laboratory analysis of bearing lubricants is carried on continuously to check the quality of each batch of lubricant received, to analyze new lubricants, and to meet special requirement of customers.

Fafnir's lubricant testing facilities and technical aid with bearing lubrication problems are another means by which Fafnir helps insure optimum performance for bearing users.

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OVER 5000 ELECTRIC MOTORS PROVIDE BALL BEARING PROVING GROUNDS AT FAFNIR



A few of the 5000 and more electric motors in Fafnir's six plants. Motors range from fractional horsepower types to 40 hp units such as that pictured at right. They provide ideal proving grounds for Fafnir electric motor ball bearings and bearing refinements.

Six "plants-full" of electric motors — over 5000 in all — make ideal proving grounds at Fafnir for electric motor ball bearing designs and new bearing refinements.

Used to power all types of equipment from pumps to 100,000 rpm grinders, and ranging in size from 1/20 to 40 hp units, these motors provide bearing performance records covering virtually every type of service and operating condition.

Fafnir's electric motor bearing proving grounds are also ideal for testing bearing refinements — new seal constructions, for example. Such widely known developments as Fafnir's contact-type Plya-Seal and slinger-type Mechani-Seal were exhaustively tested before their introduction. Their industry-wide acceptance has long since proven the value of proving grounds for ball bearing testing at Fafnir.

NEW OFFICE FOR FAFNIR'S MILWAUKEE STAFF

A new and larger home for Fafnir's Milwaukee staff — and a more efficient headquarters for bearing service to area industry — became a reality recently with the opening of Fafnir's new office at 711 West Capitol Drive in Milwaukee.

The new office will enable Fafnir to improve its service to customers throughout the Milwaukee sales district, a territory covering half of

Wisconsin, Upper Michigan, and a section of Northern Illinois.

The move is the latest of several such improvements in Fafnir's sales and service network, which now includes 26 branch offices and 18 warehouses — plus over 1000 authorized distributors for replacement bearings.

The Fafnir Bearing Company, New Britain, Connecticut.

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BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

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The P.A.'s Outlook

- See Slight Pickup in Business Coming
- Confidence Index Creeps Up One Point
- N.A.P.A. Reports Stocks Near Minimum Levels

A NOTE of optimism over the short-term outlook is beginning to creep into reports from P.A.'s throughout the country.

PURCHASING Magazine's Business Confidence Index—based on a survey of 1000 purchasing agents who voiced their opinions about business conditions in the next three months—rose a point in August to 97 (1958=100). It indicates that buyers believe business conditions will be better in September, October, and November than they are at present.

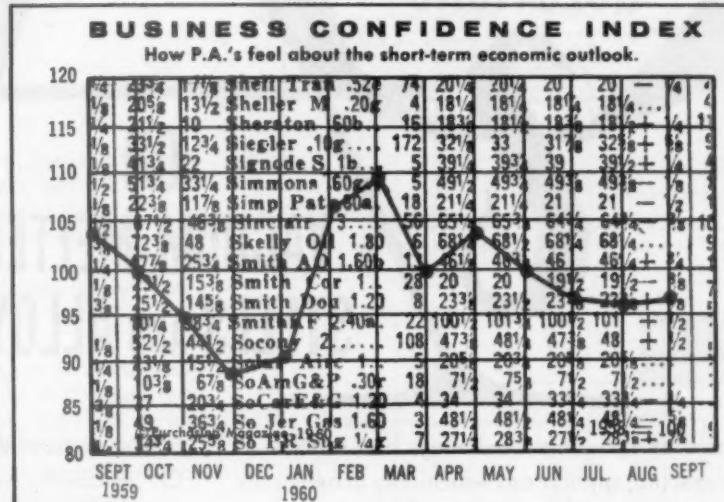
For instance, the purchasing agent for a Pennsylvania manufacturer says, "We expect slightly better business until the elections. Then we believe that there will be a drop lasting into 1961."

The director of purchases of an Ohio producer notes: "We anticipate that our volume will be slightly higher. But the increased cost of doing business will result in reduced profits."

And the P.A. for a Midwestern machinery company states: "We've had a slowdown recently, but we expect to return to higher production by the year-end."

Business survey reports from the National Association of Purchasing Agents and local associations report varied conditions.

The N.A.P.A. says: "We are in the midst of summer doldrums . . . World uncertainties,



Purchasing Magazine's Business Confidence Index—based on an opinion poll of 1000 purchasing agents from coast to coast—advanced a point this month, bringing the index up to 97 (1958=100). This indicates that P.A.'s feel business may be slightly better in the next three months than it is at present.

an election year, and indecision on the magnitude of our defense spending are contributing to a watchful, waiting attitude."

The association notes that, "Inventories are continuing to be reduced—a bottom is not far away." Sixty percent of those polled say that their companies are running at between 75% and 100% of their normal production.

Chicago Economy Stable

The Chicago association points to "a noteworthy stability of the economy in the Chicago metropolitan area. Prices remain unchanged and employment and production are steady. Order backlog are no longer shrinking for most firms and profit levels are holding.

"Inventories are smaller and material deliveries continue on a 60-day or less basis. These conditions . . . may be the right recipe

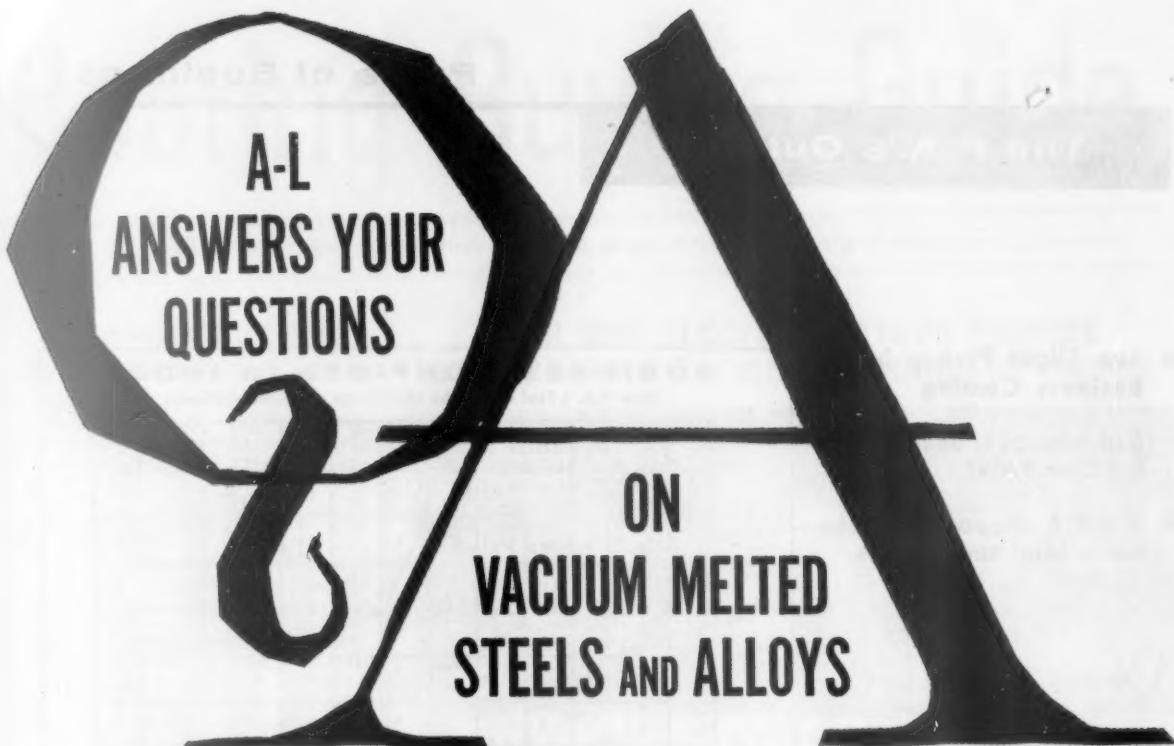
for the business recovery now simmering on the back burner."

According to the Cleveland association, "Hot weather and the vacation period are taking their toll on general business stability noted in the past two or three months."

It adds that, "There is no all-out pessimism on the part of the committee members but hints are being dropped that all is not as well as might be hoped." An upturn that may start in September was mentioned by many P.A.'s.

The Pittsburgh group says that 33% of those surveyed report smaller inventories of principal items. In the previous month, only 22% noted smaller inventories.

The association also notes shrinking profit margins. Thirty-six percent say profits were worse, compared with 31% during the previous month.



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A. For exacting applications—including materials for rockets, missiles, and jet engines. And other places where expensive machined parts are involved. In highly stressed parts where failure is highly costly. Where increased reliability is vital.

Q. What are the advantages of A-L vacuum melted alloys?

A. You get parts with optimum quality for critical applications—higher mechanical properties, better fatigue strength, improved toughness, and better transverse ductility. You also get maximum insurance against internal defects through improved cleanliness and decreased gas content. And hot and cold workability are improved, the material is more homogeneous, and properties are better.

Q. How are these metals made?

A. A-L uses all three of the vacuum melting processes. Consumable electrode vacuum arc remelting is used to produce A-L Consutrode® steels and alloys in ingots up to 20,000 pounds in weight. Induction vacuum melting is used to produce 2,000 pound heats of Allegheny Ludlum Invac materials. And remelting Invac electrode stock by the consumable electrode process produces A-L Invacutrode steels and alloys that have the best possible combination of

chemistry control, cleanliness, and homogeneity.

Q. Specifically, what metals are available in A-L's premium quality melting?

A. Most of the steels and special alloys—low alloy steels, bearing steels, stainless steels, tool and die steels, and high temperature steels and alloys.

Q. In what forms are these A-L special steels available?

A. In all commercial mill forms—plates, sheet, strip, billet, bar, wire, tubes, and even extrusions.

Q. How do these vacuum melted alloys compare in cost with ordinary alloys?

A. Naturally vacuum melting costs more. Consutrode alloys are the least expensive, followed by Invac alloys and Invacutrode alloys. Their use is economically justified by the improvement of quality in the finished part, the quality required by the severity of the manufacturing process involved, and the increase in the yield of sound parts.

Q. Where can I get more information?

A. Ask your A-L representative for your copy of "Modern Melting at Allegheny Ludlum." It gives technical data on the new melting techniques and quality improvements in materials. Or write: *Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pennsylvania. Address Dept. P-8.*

ALLEGHENY LUDLUM 
PIONEERING on the Horizons of Steel

Price Trends

- Nonferrous Metal Demand Is Sluggish
- Congo Tension Keeps Copper Price Steady

DEMAND is still sluggish in the nonferrous metal markets. While there has been a slight pickup over last month, purchasing agents have not boosted their orders to any considerable extent.

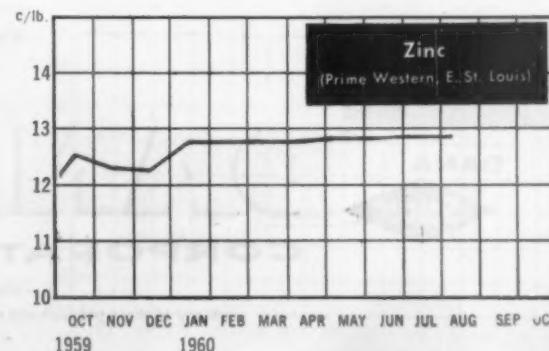
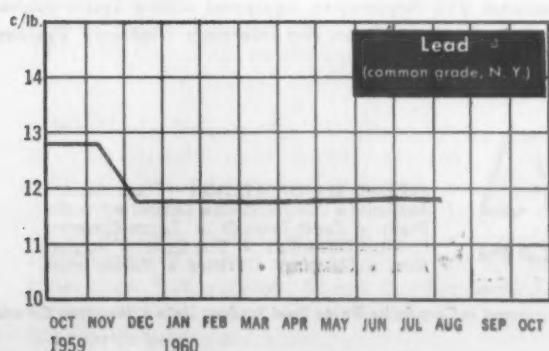
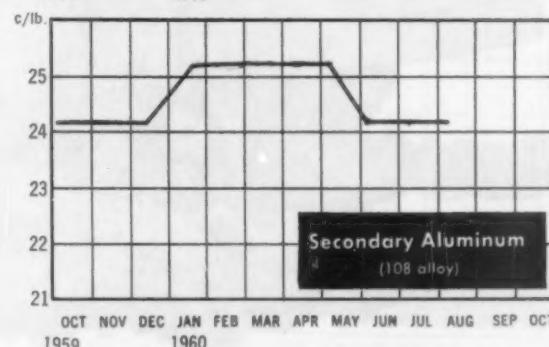
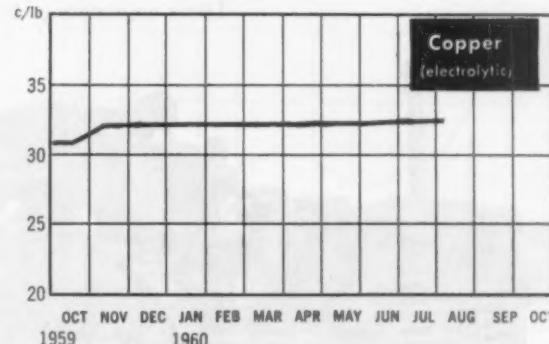
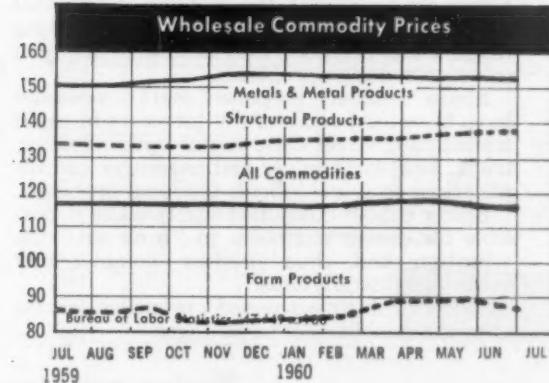
This is the way the picture shapes up in some of the more important commodities:

Copper: Domestic copper demand is continuing at just about the same low pace as in the past few months. Perhaps the only reason the U.S. price remains at 33 cents a pound despite slight demand and excess world production is the tense situation in the Congo and the fear that the turmoil will spread to Northern Rhodesia. Both countries are major copper producers, accounting for around 919,000 tons annually.

Next month, the labor contract expires at the world's largest copper deposit—Anaconda's huge Chuquicamata mine in Chile. There's a fair chance that a strike may develop.

Lead: No sharp increase in lead purchasing is expected in the next few weeks. When the International Lead and Zinc Study Group meets next month, the possibility of import restrictions is expected to be one of the primary subjects of discussion.

(Turn Page)



SPICER RUBBER ELEMENT SHAFTS CAN HELP YOU SOLVE YOUR TORSIONAL RESONANCE PROBLEMS

If you are faced with the problem of torsional vibration from impulses within the operating range, Dana engineers may be able to help you solve your design problems.

Spicer resilient propeller shaft assemblies have been used successfully for years in rapid transit cars, street cars, engine dynamometer, truck, bus, earthmover and passenger car applications to solve difficult torsional problems.

Spicer rubber-cushioned shafts make it possible for design engineers to "tune out" the vibration and thus produce commercially acceptable installations.

Spicer rubber-cushioned propeller shafts offer these additional advantages:

1 The torsional flexibility limits the effect of high impact loads resulting from rough shifts and other sudden torque changes.

2 The cushioning effect prevents clatter, rattle, and backlash noises.

3 Increased life of bearings, gear teeth, splines, and other components due to the reduction of high impact and torsional loads.

4 Reduction of noise transfer.

5 Axial flexibility to cushion forces resulting from length changes.

Product knowledge and years of experience are available to you through Dana engineers to help solve your torsional problems. Contact them today.



International 295 Payscraper, equipped with a Spicer rubber element shaft, at work on the Interstate Highway System.



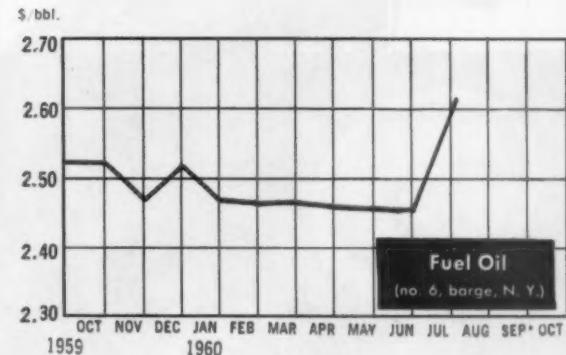
DANA CORPORATION

Toledo 1, Ohio

Many of these products are manufactured in Canada by Hayes Steel Products Limited, Merrittton, Ontario

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Auxiliaries • Universal Joints • Clutches • Propeller
Shafts • Power Take-Offs • Torque Converters
Powr-Lok Differentials • Gear Boxes • Forgings
Axles • Stamping • Frames • Railway Drives

Price Trends



In the latest monthly report of the American Bureau of Metal Statistics, lead stocks at refineries rose 5235 tons to 129,859 tons. Deliveries fell 4965 tons to 26,725 tons.

Zinc: Some buyers have been entering the market for zinc to be delivered this month. Inventories are generally low and greater demand is expected in September.

Last month, shipments fell 8964 tons to 63,069 tons. At the same time, stocks rose to 187,686 tons—the highest level since last October.

Tin: Tin prices have been climbing as suppliers move to repay metal that they borrowed from the International Tin Council. Again, unrest in the Congo area is a major factor.

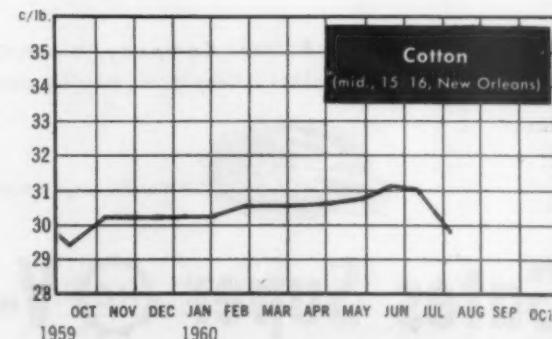
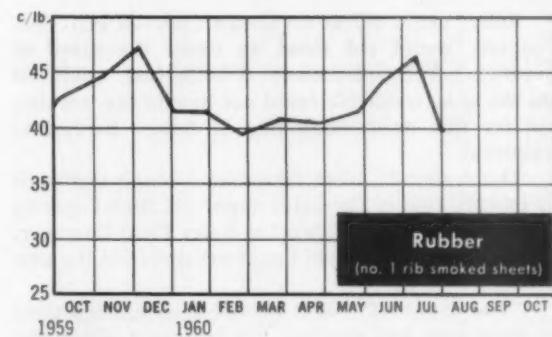
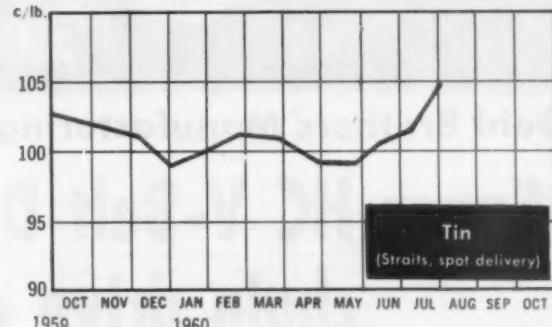
In New York, tin buying has shown little activity. However, stepup in purchasing is expected in the fall.

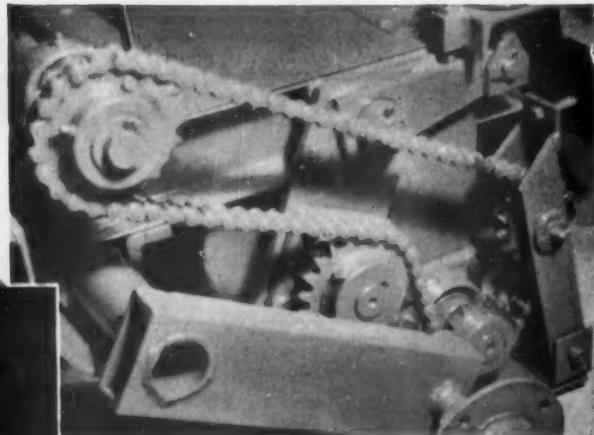
Aluminum: Aluminum stocks held by producers increased at the end of the first half of 1960 to the highest level since March 1959. Total inventory in producers' hands at the end of June amounted to 151,000 tons.

First half production of primary aluminum was 1,077,353 tons. This marked a 15% hike over the volume for the first six months of 1959.

Wholesale Prices: The Wholesale Price Index in June fell 0.2% to 119.5 (1947-49=100).

For the second consecutive month, metals and metal product prices fell. This was largely the result of lower prices for scrap steel and nonferrous metals. Finished steel edged off for the first time since last autumn. Sharp competition from foreign companies was seen as forcing lower prices for copper tubing and sheet.





FORMER DRIVE: The high speed operation of Gehl's Cure-All Hay Conditioner caused failure of the roller chain drive.

PRESENT DRIVE: Both the limited space and high speed requirements were met with this Gates Super HC V-Belt Drive.

Gehl Brothers Manufacturing Company Finds

Super HC V-Belt Drive handles speeds chain drive couldn't take!

Roller chain drives on Gehl's Cure-All Hay Conditioners "would not stand up under the speed of operation." Yet conventional V-belts that would fit into the space available could not handle the working load for this outstanding line of forage harvesting equipment.

The design problem remained a tough one until the introduction of the Gates Super HC High Capacity V-Belt early last year. Then the Gates Field Engineer, working closely with Gehl Engineers designed the new drive shown above.

"The Super HC V-Belt Drive has eliminated need for shear-pins and clutches, has increased efficiency,

and lowered maintenance costs," is the pleased report from Gehl personnel.

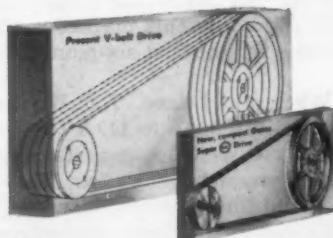
Take advantage of Super HC on your equipment

Whenever you have a drive change on a new model or are replacing belts or sheaves, let your Gates Representative show you how Super HC Drives can reduce sheave diameters 30% to 50%, drive space up to 50%, drive weight and cost as much as 20%.

A handbook, "The Modern Way to Design Multiple V-Belt Drives," is yours for the asking. Simply contact your Gates Representative listed in the Yellow Pages.

TPA 505

The Gates Rubber Company, Denver, Colorado
Gates Rubber of Canada Ltd., Brantford, Ontario



Gates Super V-Belt Drives

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same hp capacity
in smaller "package"

Sales, Inventories, Orders

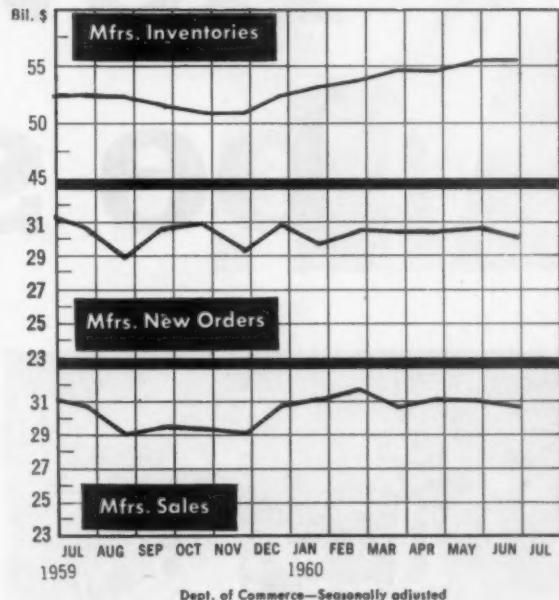
● Mfrs. Sales, Orders Fall; Inventories Rise

SEASONALLY-ADJUSTED manufacturers' sales and new orders declined in June while inventories advanced.

New orders were down \$400 million to \$30.1 billion. This 1% decline marks the lowest level since January's \$29.8 billion. The drop-off occurred entirely in durables, especially steel, transportation equipment, and non-electrical machinery.

Sales also dropped 1%, falling \$200 million to \$30.8 billion. Chief reason was the steel slowdown, which more than offset increased auto output.

Inventories rose \$200 million to \$55.2 billion, the smallest monthly gain thus far in 1960. The increase was about evenly split between durable and nondurable goods.



Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)

Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)						
All Manufacturing Industries	1959	1960				
Durable-goods Industries	June	Feb.	Mar	Apr.	May(r)	June(p)
Primary metal	31,248	31,580	30,840	31,029	30,987	30,774
Fabricated metal	15,771	15,670	15,170	15,005	15,063	14,850
Machinery	2,916	2,690	2,540	2,306	2,244	2,021
Transportation equipment	1,758	1,720	1,690	1,692	1,753	1,757
Lumber and furniture	4,565	4,840	4,750	4,832	4,775	4,726
Stone, clay, and glass	3,558	3,570	3,460	3,361	3,487	3,574
Non-durable-goods Industries	1,035	920	880	929	937	900
Food and beverage	768	770	700	748	749	755
Tobacco	15,477	15,900	15,670	16,024	15,994	15,984
Textile	4,614	4,720	4,710	4,721	4,627	4,644
Paper	414	430	420	388	398	401
Chemical	1,281	1,260	1,200	1,259	1,286	1,266
Petroleum and coal	1,042	1,070	1,050	1,030	1,044	1,056
Rubber	9,125	9,380	9,300	9,383	9,352	9,379
	3,095	3,130	3,160	3,264	3,180	3,152
	520	570	510	533	550	522

Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)

Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)						
All manufacturing industries	1959	1960				
Durable-goods industries	June	Feb.	Mar	Apr.	May(r)	June(p)
Primary metal	52,138	53,900	54,340	54,657	54,951	55,164
Fabricated metal	30,927	31,260	31,770	31,925	32,071	32,178
Machinery	4,201	4,320	4,450	4,628	4,696	4,811
Transportation equipment	3,365	3,230	3,330	3,316	3,354	3,307
Lumber and furniture	9,725	10,320	10,480	10,528	10,599	10,628
Stone, clay, and glass	7,386	7,530	7,640	7,583	7,522	7,497
Non-durable-goods industries	1,764	1,870	1,860	1,848	1,848	1,865
Food and beverage	1,976	1,380	1,420	1,421	1,434	1,431
Tobacco	21,911	22,640	22,570	22,732	22,880	22,966
Textile	4,928	4,820	4,820	4,854	4,999	5,070
Paper	1,819	1,950	1,950	1,952	1,955	1,931
Chemical	2,532	2,650	2,670	2,719	2,708	2,737
Petroleum and coal	1,492	1,540	1,540	1,551	1,584	1,590
Rubber	3,768	4,050	4,060	4,075	4,085	4,105

Manufacturers' New Orders Seasonally Adjusted (Millions of Dollars)

Manufacturers' New Orders Seasonally Adjusted (Millions of Dollars)						
All manufacturing industries	1959	1960				
Durable-goods industries	June	Feb.	Mar	Apr.	May(r)	June(p)
Primary metal	31,404	30,590	30,290	30,353	30,470	30,075
Fabricated metal	16,133	14,800	14,640	14,469	14,680	14,202
Machinery	15,271	15,790	15,660	15,884	15,790	15,873

(r) Revised.

(p) Preliminary.

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An Island Creek technician uses the optical pyrometer to determine ash fusion point of a coal

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What the invoice shows a coal costing is one thing. What the final net costs turn out to be, per 1000 pounds of steam, are something else again. Something obviously even more important, too, than the BTU's per ton. Good reason to investigate Island Creek Precisioneered Coals, inherently superior eastern coals, mined and prepared by the most

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Washington Report

Party Planks Call For Strong Central Government

BOTH POLITICAL parties are committed to stronger central government in the next four years. With the Democrats, it is a promise—from the Republicans comes reluctant agreement.

Central issue is the rate of economic growth. The Democrats set a specific growth target. Their platform states:

"We Democrats believe that our economy can and must grow at an average rate of 5% annually, almost twice as fast as our average annual rate since 1953. We pledge ourselves to policies that will achieve this goal without inflation."

The Republicans offer a call "to quicken the pace of our economic growth to prove the power of American free enterprise to meet growing and urgent demands."

To force growth, the Democrats propose an easy money policy with modest interest rates and control of inflation—along with suggestions that they would take action against "administered prices." If easy money and low price levels do not cut unemployment to a minimum and if a recessionary trend appears, the Democrats promise to act promptly with counter-measures "such

as public works or temporary tax cuts."

In contrast, the Republican formula for stimulating growth is broadly based on tax reform to foster job-making and growth-making investment for modernization and expansion. This includes realistic incentive depreciation schedules, elimination of featherbedding by labor and management, maintenance of a stable dollar, and relating wages and other payments to productivity.

Underlying the two party platforms are general commitments to counter the drift away from strong central government which took place under the Eisenhower Administration. The resolve of the Democrats is that the trend be reversed, while the Republicans believe that at the very least it should be stemmed.

In the field of antitrust and business practices, the Republican platform position is that government policy should foster new and small business. The Republicans propose to do this by:

(1) Continued active enforcement of the antitrust laws.

(2) Protecting consumers and investors against the hazard and economic waste of fraudulent and

criminal practices.

(3) Keeping the federal government from unjustly competing with private enterprise.

Democrats spell out their program against monopolies in much more specific terms. They pledge vigorous enforcement of the antitrust laws and favor:

(1) Requiring corporations to file advance notice of mergers with the antitrust enforcement agencies.

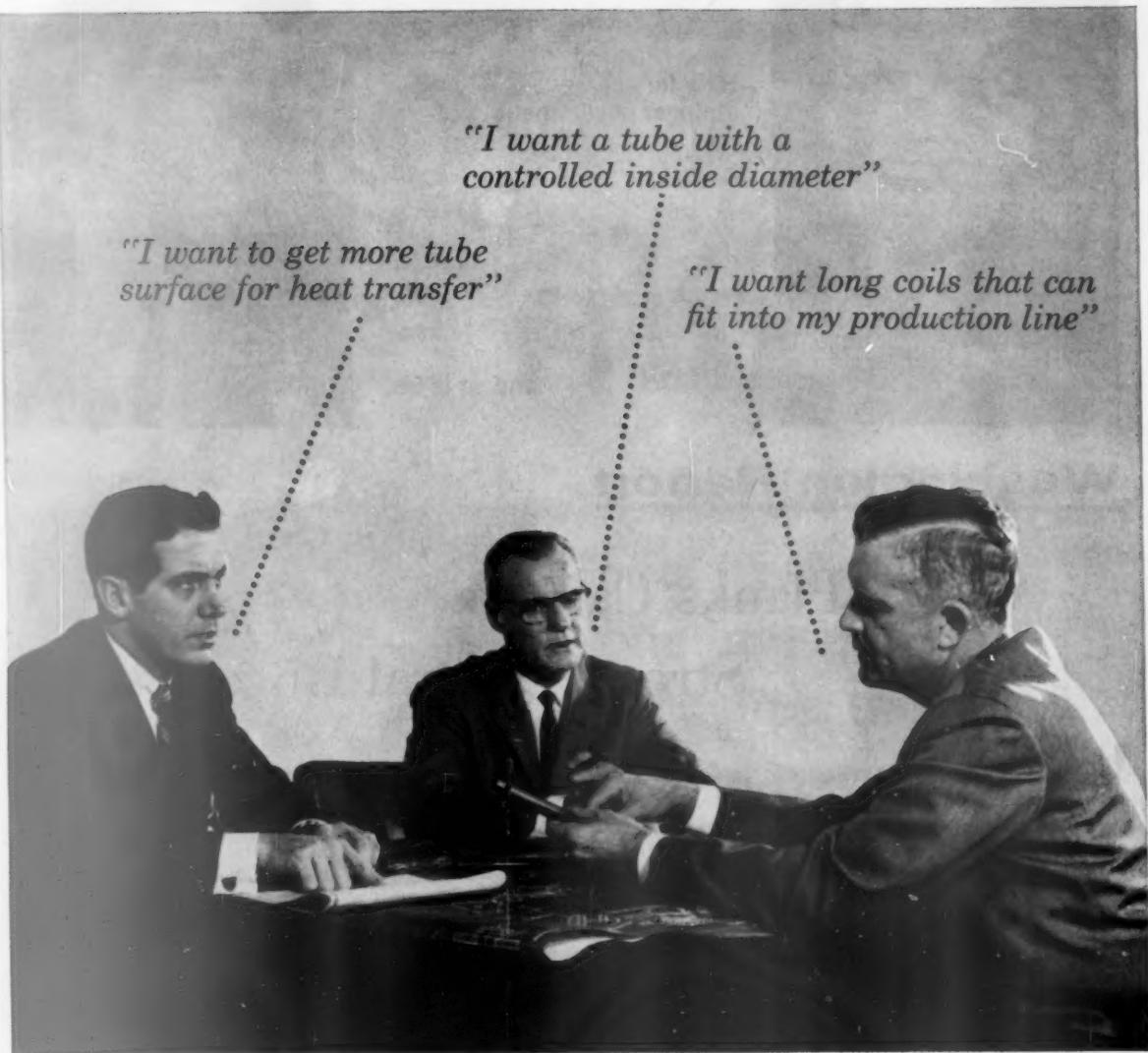
(2) Permitting all firms to have access at reasonable rates to patented inventions resulting from government-financed research and development contracts.

(3) Strengthening the Robinson-Patman Act to protect small business against price discrimination.

(4) Authorizing the Federal Trade Commission to obtain temporary injunctions to halt any type of business practice when administrative proceedings are underway.

(5) Moving toward open, competitive bidding in the award of government contracts.

Inflation as a political issue seems to have been almost completely discarded by both political parties.
(Turn Page)



"I want a tube with a controlled inside diameter"

"I want to get more tube surface for heat transfer"

"I want long coils that can fit into my production line"

"I want more than just a tube!"

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If they are interested in heat exchange, for example, they weigh carefully the advantages of using capacity-boosting Wolverine Trufin®—an integrally finned tube.

If they have to meter a liquid, gas or air—get just the precise amount for a given application—they insist upon precision-made Wolverine Capilator®.

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PLANTS IN DETROIT, MICHIGAN AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.
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Washington Report

There are brief statements in each of the party platforms decrying inflation but public attention has been diverted from inflationary trends even though consumer price indices continue at record high levels.

The Republicans urge the "use of the full powers of government to prevent the scourges of depression and inflation." The platform, in a section covering government finance policy, goes on to say:

"We must resist assaults upon the independence of the Federal Reserve System; we must strengthen, not weaken, the ability of the Federal Reserve System and the Treasury Department to exercise effective control over money and credit in order to better combat both deflation and inflation that retard economic growth and shrink people's savings and earnings."

The Democrats have a brief statement on the "Control of Inflation." Their platform says that the American consumer has a right to fair prices and that the party will strive "to secure that right." Regarding inflation, the platform says:

"Inflation has its roots in a

variety of causes; its cure lies in a variety of remedies. Among these remedies are monetary and credit policies properly applied, budget surpluses in times of full employment, and action to restrain 'administered price' increases in industries where economic power rests in the hands of a few. A fair share of the gains from increasing productivity in many industries should be passed on to the consumer through price reductions."

• Plan New Nuclear Generating Station

Atomic Energy Commission officials claim that they have taken the "logical next step in nuclear reactor development" with their participation in the construction of a nuclear electric generating station at Big Rock Point, Mich.

The generating plant is in the system of the Consumers Power Company and is located in an area of relatively high power costs. The company is building the plant with its own funds, with General Electric as contractor for the installation and the Bechtel Corporation contracting the construction.

(Turn Page)



This new nuclear generation station—to be completed at Big Rock Point, Mich. in 1962—will eventually supply 75,000 kilowatts of electricity.

AUGUST 15, 1960

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One Source of Supply for all your Collet requirements — means Purchasing Economy Complete range of sizes, round, hexagon, square.

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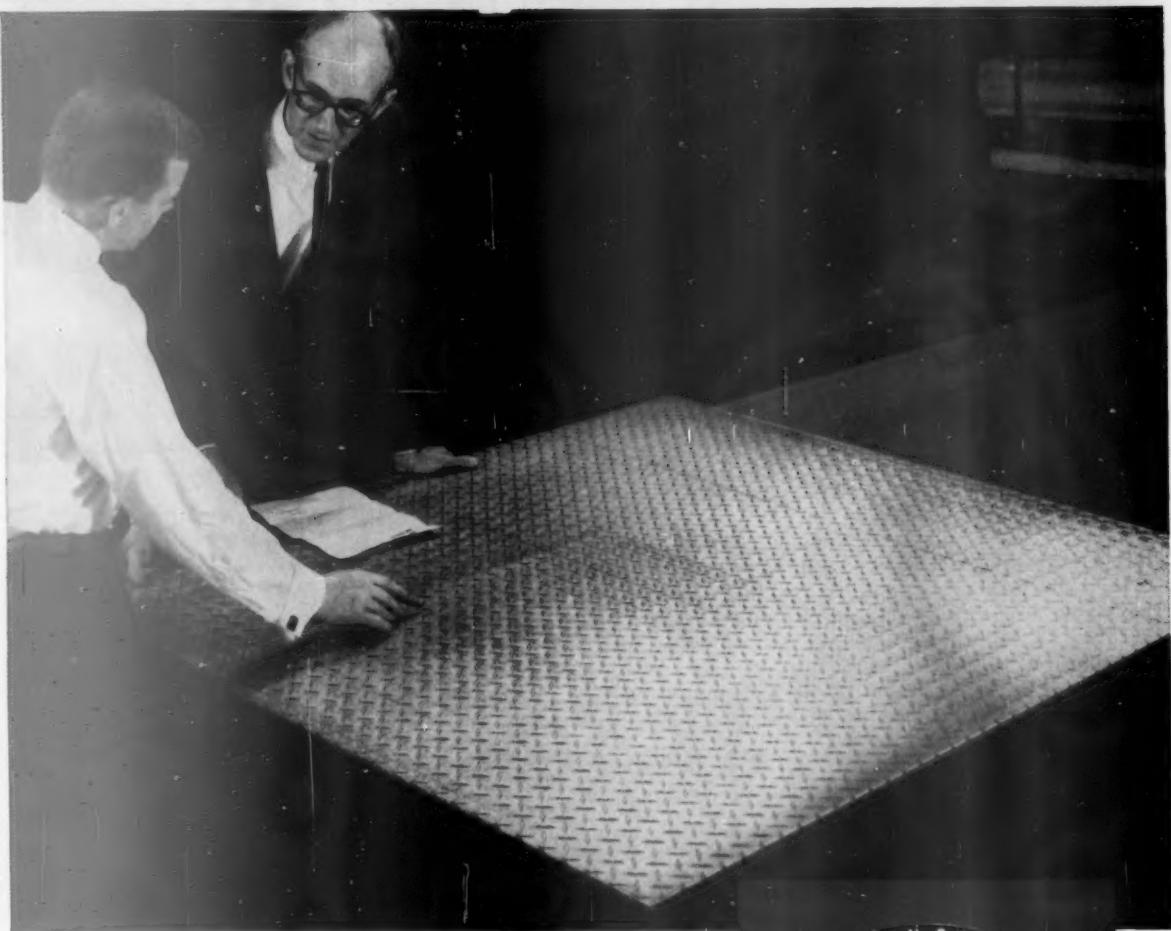
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It may just be that you could get a lot more production efficiency and product quality from your aluminum. A different alloy may do it . . . or a faster machining speed . . . or another joining method. You can get expert, specialized technical help with any aluminum product or production question from your Reynolds Distributor. His men are trained to help you get the most from your metal. And they'll see that you get the alloy, size, kind and quantity of Reynolds Aluminum you need, fast. *Reynolds Metals Company, P.O. Box 2346-DK, Richmond 18, Virginia.*



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"Adventures in Paradise"; and,
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For the name of the nearest Reynolds Distributor, look under "Aluminum" in your classified phone book

For More Information Write No. 168 on Place Mark Card—Page 32

Washington Report

Research aspects of the plant—to be completed in the fall of 1962—center around the use of "high density" fuel elements. This will permit the eventual increase in output of the plant from 50,000 kilowatts initially to 75,000 kilowatts. These developments call for experiments with the design of the fuel core of the reactor, increased fuel life, and lower costs of fabricating the nuclear fuel.

The reactor is of the boiling water type, similar to the Chicago Edison nuclear plant at Dresden. This plant has been brought up to its full output of 180,000 kilowatts and is yielding operational data as a full-scale plant.

Why is Consumers Power willing to spend additional dollars for nuclear power plants over the cost of a steam station? The overriding motive is that if private power interests do not build nuclear stations, the government will—finally resulting in a nationalized power industry.

Additionally, the company, which uses about 10,000 tons of coal a day in its system, feels that the cost of coal will continuously increase. It also anticipates that energy from nuclear fuel will eventually compete economically with fossil fuels. The power company now buys \$30 million worth of coal a year.

In 1915, the average cost to the company for a ton of coal delivered was \$2.62. In 1935, it was \$4.19 and last year it was \$7.73. In 1915, the company burned only 103,010 tons. In 1935, the company burned 386,336 tons, while last year the figure was 3,740,000 tons.

Officials of the Michigan utility believe that atomic energy for electric power will become economically competitive. However, they don't hazard a guess as to when this will come about. What they see is a gradual refinement of nuclear power stations bringing the costs of atomic power down and a continuation in the higher cost trend of conventional fuel. At some point, the lines will cross and nuclear stations will become economical.—A. N. Wecksler

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HEADQUARTERS**

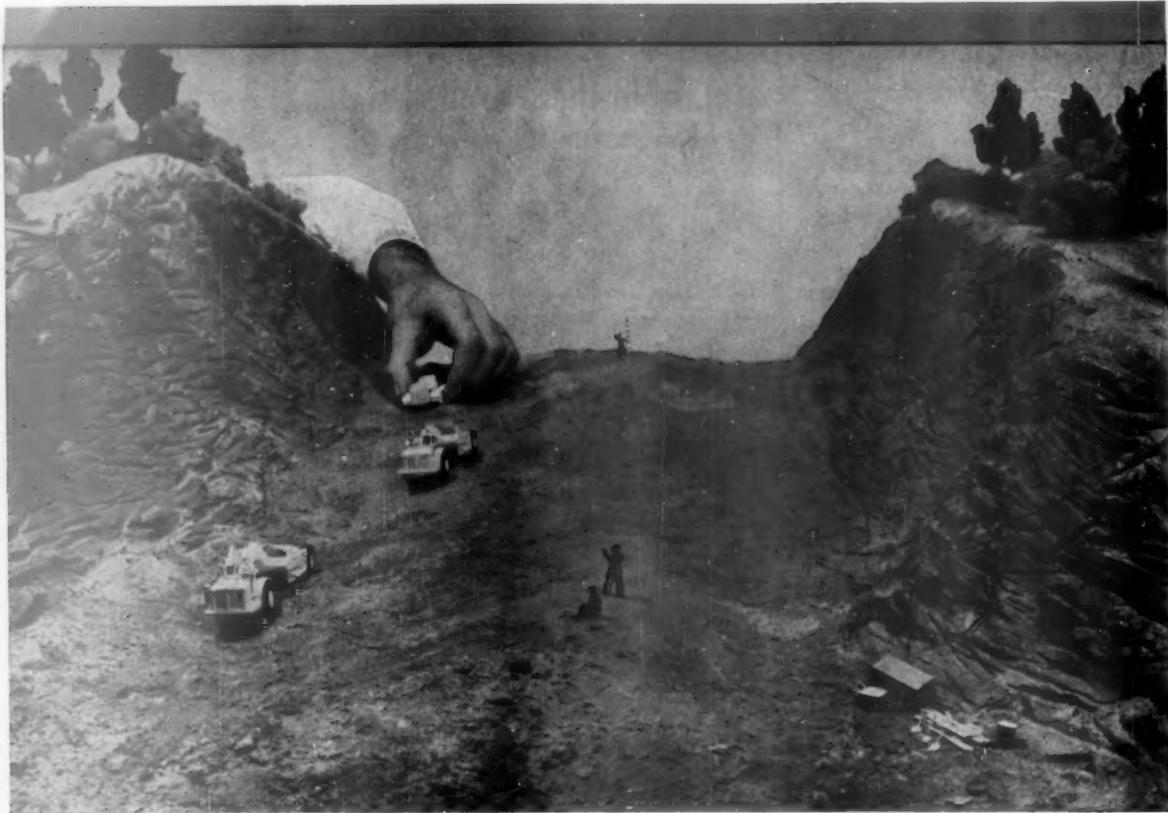
ACE chemical resistant equipment
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Custom made for rugged service

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If you're now compromising with stock tubing, consider all the advantages of custom quality Ostuco Tubing. Consistently you receive the exact tubing you want—the size, length, grade—with the strength and tolerances you need. For machined parts, you get our recommended rough size guaranteed to clean up.

With all these advantages, custom quality Ostuco Tubing is obtainable in small minimum quantities—as little as a few hundred feet. Contact your nearest Ohio Seamless representative, or the plant at Shelby, Ohio—Birthplace of the Seamless Steel Tube Industry in America.

Scale model illustrated built to 3.5 mm scale.

A-1282A



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CANADA: Railway & Power Eng'r, Corp., Ltd.

EXPORT: Copperweld Steel International Company, 225 Broadway, New York 7, New York

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Purchasing Follow-up

NICB Develops Index Of Help-Wanted Ads

The volume of classified help-wanted advertising in U. S. newspapers is closely related to the business cycle, according to a recent announcement by the National Industrial Conference Board.

The NICB has thus issued a help-wanted advertising index designed to serve as a business indicator, especially in the area of labor market conditions. The index is based on the number of help-wanted ads published in the classified sections of leading newspapers—one in each of 33 cities representing major labor market areas.

Data Is Adjusted

In order to reveal cyclical movements in help wanted advertising volume more clearly, the original data is adjusted for monthly variation in the number of Sundays and for seasonal effects. In addition, a monthly measure of diffusion was devised to reflect how widespread, in a regional sense, are increases in help wanted advertising.

An advantage of the Board's index is the timeliness with which the data is collected. Presently the indicator is calculated on a monthly basis, but it is feasible to run similar series on a weekly basis.

Another advantage is the flexibility with which this information can be arranged to cover geographical areas. This data, therefore, is of great interest to local marketing, banking, or utility organizations.

The NICB reports that the volume of employment advertising is highly sensitive to labor market conditions. More advertisements for more days are required to fill vacancies under tight labor market conditions than when the labor market is slack.

At the present time, the Board is developing measures of help-wanted advertising on a regional basis.

AUGUST 15, 1960

Gov't. Forecasts Steel Recovery in Late Summer

"Some recovery" in steel production "in late summer" has been forecast by the Department of Commerce.

In its midyear review and outlook appraisal, the Commerce Department also said that steel output in the second half would reach 49 million to 51 million ingot tons.

According to the department's forecast, the industry will experience a trade deficit again in 1960. But its estimate is for a one million-ton deficit, compared with a 2.7 million ton deficit last year.

Steel imports are declining this year, according to the forecast. The total is expected to be less than four million tons for the year.

The Commerce Department forecast noted that imports will continue their recent decline only if world demand for steel remains relatively high and foreign export prices remain firm. However, if world demand softens and Western European and Japanese steel producers cut their prices

drastically, as was the case in 1958, imports may remain at a higher level."

The department noted that steel orders will soon "rise to meet increased demands from industry."

N.A.P.A. to Participate At Standards Meeting

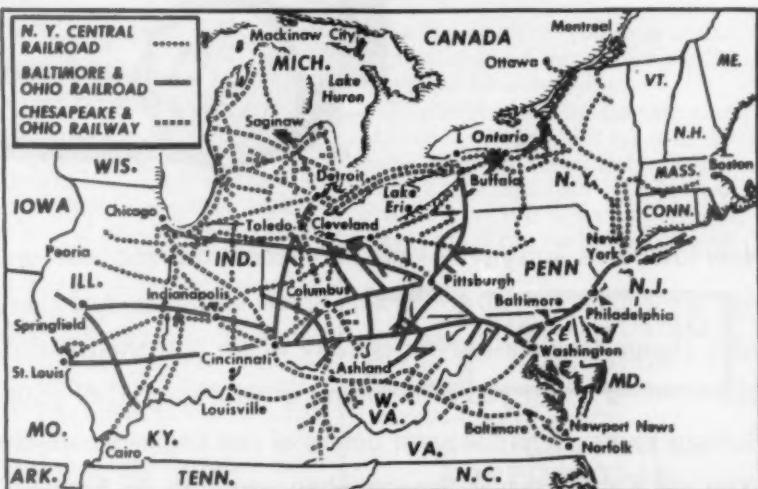
The National Association of Purchasing Agents will be one of the groups sponsoring sessions at the 11th National Conference on Standards. The meeting will be held at the Sheraton-Atlantic Hotel in New York City from October 25 to 27.

The conference will be held under the auspices of the American Standards Association—a federation of 124 trade associations and technical societies.

Other groups that will sponsor sessions are the Department of Defense, American Society for Quality Control, American Statistical Association, Modular Building Standards Association, and Company Member Conference.

(Turn Page)

Eastern Rail Merger Sought



Still hanging fire is the proposed merger of three large Eastern railroads—the New York Central, Baltimore & Ohio, and Chesapeake & Ohio. The merger would create a railroad with trackage of 21,401 miles.

*"You can save more than half
at our newest low rates;
and perhaps even more
on heavier weights"*

—says the Railway Express Eager Beaver



New low rates apply on a large number of commodities—and savings are substantial, up to 60% in some instances. And there's no extra charge for door-to-door delivery within published limits. Keep this in mind when you're shipping or receiving. Call your local Railway Expressman today for details of our Eager-Beaver Service! (You get Eager-Beaver Service when you ship Air Express, too!)

LET THE EAGER BEAVER DO IT!

For More Information Write No. 171 on Place Mark Card—Page 32



Purchasing Follow-up

The Defense Department presentation will be divided into two sections. The first will deal with standardization and logistics management, while the second will cover plans to implement standardization responsibilities in light of military-industry needs and experience.

New Rubber Usage Rises to 138,370 Tons

Consumption of new rubber in the United States rose to 138,370 tons in June, reports the Rubber Manufacturers Association. This marks a 5114-ton increase over the previous month.

Synthetic rubber consumption amounted to 95,775 tons—or 69% of total usage. Natural rubber use was 42,595 tons, up slightly from the month before.

On the production side, synthetic production was 122,549 tons, compared with 126,804 tons during the previous month. And reclaimed rubber consumption was 24,895 tons, compared with 23,763 tons in May.

Business Formations Set New June Record

The number of new business incorporations in June was at the highest level for any similar month on record, reports Dun & Bradstreet.

Total number of new incorporations was 16,676. This marks a 7.4% gain over the 15,530 of the previous month and an increase of 2.9% over June 1959, when 16,208 business were set up.

During the first six months of 1960, 97,947 new business incorporations were recorded. In the first half of 1959, on the other hand, a record 103,350 new businesses were incorporated.

Task Force Studies Wisconsin Procurement

A task force to study procurement practices has been established by the state of Wisconsin.

The group was appointed by the Committee on Business Practices set up recently by Governor Gaylord A. Nelson.

Fred L. Brewer, purchasing agent of A. O. Smith Corp., Milwaukee, is chairman of the task force. Other members are R. S. Hayes, purchasing agent of Pabst Brewing Co., Milwaukee; Burbank Murray, purchasing agent of Caterpillar Tractor Co., Milwaukee; Joseph W. Nicholson, purchasing consultant, Milwaukee; Neil Cafferty, purchasing agent of University of Wisconsin, Madison; Assemblyman George E. Molinaro, Kenosha; William Rank, deputy director of the Bureau of Purchases, Madison; and Warren Exo, secretary of the Bureau of Management, Madison.

Voluntary Service

Service on the task force is voluntary for all members except those who are state employees. In the meetings held thus far, the law governing state purchases was reviewed. This statute—which places all responsibility for procurement on the state director of purchases—was enacted in 1930 on the recommendation of the Milwaukee Association of Purchasing Agents.

The task force is examining Wisconsin purchasing operations in order to determine their efficiency and effectiveness. When it completes its study, it will make recommendations to the Committee on Business Practices in the following areas:

(1) Overall organization of state purchasing practices, including those of the Bureau of Purchases, University of Wisconsin, Department of Welfare, and all operating departments.

(2) Purchasing procedures used by the Bureau of Purchases and relationships with other agencies.

(3) The extent to which unified purchasing procedures have been adopted by agencies that have been granted purchasing authority by the Bureau of Purchases.

(4) Whether or not delegation of responsibility for purchasing to



"I figure we're saving 25% on charts!"

"By using only GC Recording Charts, we buy quality charts at the lowest prices and save plenty more in time and clerical work."

You save three ways when you standardize on GC Recording Charts.

1. Efficient production by the world's largest chart specialists makes possible lower prices.

2. Periodic shipments get you the charts you need, when you need them. At the same time you place only one order—get the bulk price.

3. Additional savings in time and clerical work are yours because you deal with only one salesman and write only one order instead of many.

As for quality, you can count implicitly on GC just as over 5,000 users are already doing.

GC maintains a catalog selection of over 15,000 different types of circular, strip and rectangular recording charts. Custom production orders receive prompt, expert attention. Write for Stock List and samples.



DISTRIBUTED BY:

TECHNICAL SALES CORPORATION

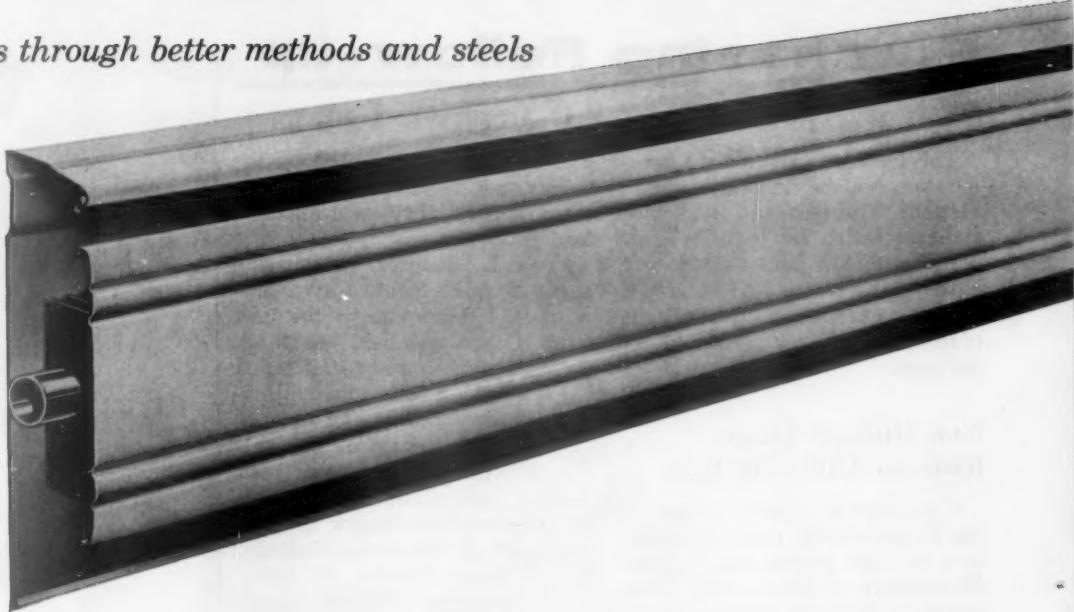
189 Van Rensselaer St., Buffalo 10, N. Y.

A SUBSIDIARY OF:

GRAPHIC CONTROLS CORPORATION
Buffalo 10, New York

For More Information Write No. 172
on Inquiry Card—Page 32

Better products through better methods and steels



With Weirzin: easy fabrication of beautiful baseboard heating panels that last and last and last.

This high quality electrolytic zinc-coated and bonderized steel sheet is produced to our customers' requirements for uniformity of gage, width and temper. This attention to quality along with the excellent corrosion resistance provided by the zinc coating puts Weirzin at the top of its category and around the bottom of an increasingly large number of commercial and residential interiors.

There, these baseboard heating panels provide a functional border of beauty that requires little or no maintenance. The chemically treated surface holds the smoothest of paint



jobs and the tight zinc steel bond eliminates all possibility of underfilm corrosion. Proof that despite the severe bending and forming it undergoes, Weirzin maintains a flawless bond between the zinc coating and the steel sheet.

Result? The fabricator enjoys the workability of a fine product and the ultimate consumer benefits from its serviceable beauty. And that's true of any product made from Weirzin.

Strong, smooth Weirzin electrolytic zinc-coated steel is manufactured by Weirton Steel Company. Its high quality is typical of the many other steels produced by Weirton and used throughout industry to improve products, methods and profits.



Look for the STEELMARK
on the products you buy; place
it on the products you sell.

WEIRTON STEEL
Weirton, West Virginia



Weirton Steel is a division of **NATIONAL STEEL CORPORATION**

Purchasing Follow-up

state agencies is desirable.

(5) The use of modern purchasing practices—such as scheduled buying, value analysis, standards, adequate specifications, group purchasing, sampling, testing, and storekeeping.

(6) The effectiveness of competitive bidding as a purchasing tool and the type of exceptions that can be permitted.

(7) Price and term agreements and blanket purchase orders.

(8) The degree to which storekeeping serves the operating agencies.

(9) Whether the statutes pertaining to purchasing should be revised for a more effective operation.

Plan Seminar on Foreign Buying

A series of seminars on the principles and techniques of purchasing in Europe has been announced by the Materials Management Institute.

The meetings will be held in several key industrial cities during October and November. They will be conducted by British and U.S. experts in foreign trade.

Analyze Supply Sources

Topics to be covered include an analysis of the new trading agreements in Europe (the Common Market and the Free Trade Area Association) and how they may open up fresh supply sources to the American buyer. Answers to specific problems of buying in Europe will be offered including: finding the most suitable source; foreign languages and their relative importance; methods of checking on standings of European firms; differences in negotiating methods; questions of quality; delivery performance; conditions of contract; and methods of payment.

Complete details on programs, dates, and locations of the seminars may be obtained by writing the Materials Management Institute, 550 Fifth Avenue, New York 36, N. Y.

For More Information about ad on facing page
←Write No. 173 on Place Mark Card - pg. 32

AUGUST 15, 1960

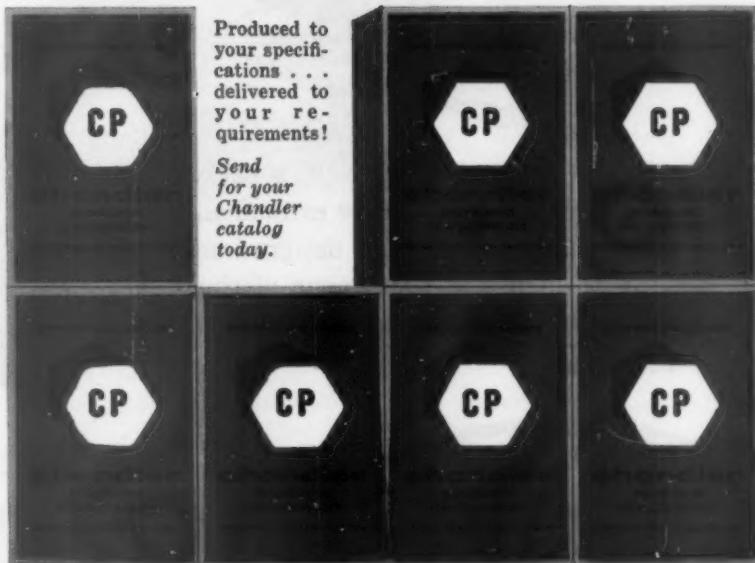


Men who know and specify special fasteners depend on this familiar symbol . . . CP . . . the famous Chandler hallmark for precision and reliability in fasteners. It's your guarantee that each fastener meets the rigorous materials and performance tests required by industrial and military standards. Before placing your next order . . .

check with chandler . . .



for precision cap screws!



Produced to
your specifi-
cations . . .
delivered to
your re-
quirements!

*Send
for your
Chandler
catalog
today.*

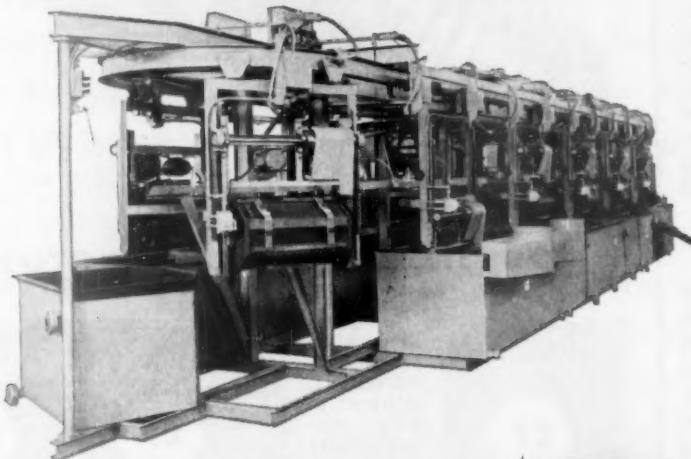
CHANDLER PRODUCTS CORPORATION • 1489 Chardon Road • Cleveland 17, Ohio

For More Information Write No. 174 on Place Mark Card—Page 32

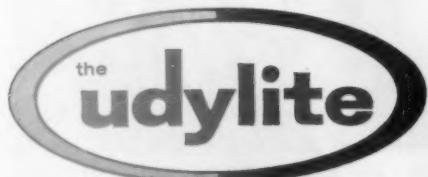
KEEP UP-TO-DATE WITH UDYLITE!



*It pays to know what's new in barrel plating equipment
... from economical, field-repairable cylinders
... to high-production automatic machines.*



THIS NEW UDYLITE CATALOG is packed with valuable information on the latest manual and automatic barrel plating equipment, designed and built by Udylite to help you boost your plating profit potential. Bring yourself up-to-date; write for your free copy today!



corporation • detroit 11, michigan

on the west coast: L. H. Butcher Co.

world's
largest
plating
supplier

U
d
Y
l
i
t
e

For More Information Write No. 175 on Place Mark Card—Page 32



**Blueprints like these...
moved a complete division
from New York to Barberton...**



and put things quickly into place...item by item!



America's Most Recommended Mover

- Moving a complete division (office furniture and equipment . . . employee's household goods, too) is a pretty large order.

But, Mayflower takes these kinds of jobs in stride. They have the special equipment and the trained movers to handle any size company move smoothly, efficiently and safely.

Babcock & Wilcox selected Mayflower. Every phase of the move was blueprinted to speed placement of furniture and equipment in the new Barberton, Ohio plant. And, to eliminate the least interruption in business, the moving of all six floors of furniture was accomplished in three successive weekend shipments . . . using 61 Mayflower vans.

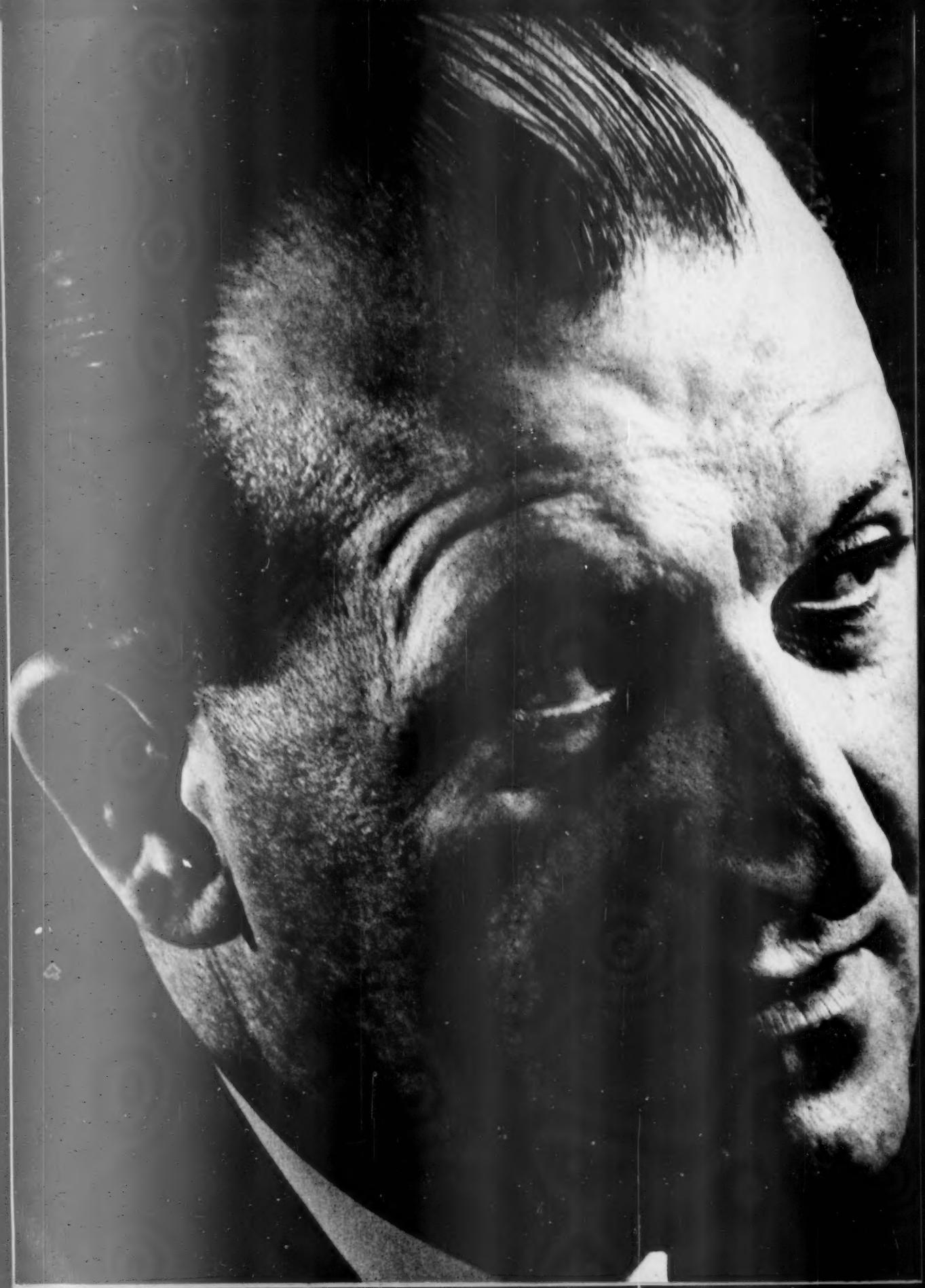
Whether you want to move an office or a complete headquarters—a Mayflower "blueprint move" saves time and money. Your agent will help you plan it right!

AERO MAYFLOWER TRANSIT COMPANY, INC. • INDIANAPOLIS, INDIANA

For More Information Write No. 176 on Place Mark Card—Page 32

For More Information about ad on following page
Write No. 177 on Place Mark Card—pg. 32→

AUGUST 15, 1960





**Paul McHail,
who directs the prompt handling
of thousands of orders
each month, says
you'll like doing business
with Columbia-Southern**

Customers' orders flowing through Columbia-Southern's Order and Service Department, directed by Paul McHail, are routed without delay to the appropriate shipping point by means of a modern, direct communications network. During their brief passage through the Department, they are checked against customers' standing specifications and given complete routing instructions by representatives of the Traffic Department. The central location of Order and Service at Columbia-Southern's Pittsburgh Headquarters provides close contact with product managers and others, making fast decisions an everyday reality.

Shipping Departments at each plant work as efficiently to carry out the instructions promptly and accurately, speeding products to users as directed.

District Sales Offices play a big part in the function, maintaining close contact with customers and serving as direct liaison between Columbia-Southern and the customer organization, promptly relaying special instructions, questions, and answers in both directions, and providing users of Columbia-Southern Chemicals with the greatest possible degree of flexibility.

This concern for doing things the customer's way explains why so many organizations, representing every industry, rely on Columbia-Southern as a primary supplier of their chemical requirements. They like Columbia-Southern's habit of giving more than just the products specified on the order form. So will you!

Anhydrous Ammonia, Barium Chemicals, Benzene Hexachloride, Calcium Chloride, Calcium Hypochlorite (Pittchlor®, Pittabs®), Carbon Tetrachloride, Caustic Potash, Caustic Soda, Chlorine, Chlorinated Benzenes, Chloro IPC, Chrome Chemicals, Hydrogen Peroxide, Muriatic Acid, Pacific Crystals, Perchlorethylene, Rubber Pigments (Calcene®, Hi-Sil®, Silene®), Soda Ash, Sodium Bicarbonate, Sodium Sulfate, Titanium Tetrachloride, Trichlorethylene

columbia southern
chemicals

COLUMBIA-SOUTHERN CHEMICAL CORPORATION • A Subsidiary of
Pittsburgh Plate Glass Company • One Gateway Center, Pittsburgh 22, Pa.

"A good many companies just mushroom, without any established plan," a customer remarks. "Alan Wood's continuing expansion program gives us a feeling of orderly progress."

Keeping abreast of increased demands for steel is not enough at Alan Wood, steel producers for more than 125 years. The Alan Wood multi-million dollar expansion program is designed to keep ahead . . . to enable Alan Wood to continue to handle your orders immediately, without red-tape delays.

Continuity of management is an important part of the program—important to you. It means that you continue to deal with executives who are familiar with your needs in steel plate, strip and sheet. Your Alan Wood representative will help you get where you are going . . . Call him today!

“They know
where
they’re going
at Alan Wood”

ALAN WOOD STEEL COMPANY



Conshohocken, Pa. • STEEL PRODUCERS WITH THE CUSTOMER IN MIND

DISTRICT OFFICES AND REPRESENTATIVES: Philadelphia • New York • Los Angeles • Boston • Atlanta
Cincinnati • Cleveland • Detroit • Houston • Pittsburgh • Richmond • St. Paul • San Francisco • Seattle
Montreal, Toronto and Vancouver, Canada: A. C. Leslie & Co., Limited



For More Information Write No. 178 on Place Mark Card—Page 32

For More Information about ad on facing page
Write No. 179 on Place Mark Card—pg. 32→
PURCHASING



YOU SAVE ON INSTALLATION AND ASSEMBLY WHEN YOUR "SPECS" READ HYATT

Because it saves assembly time, Hyatt makes all separable races interchangeable. You can press a race on the shaft at one work station . . . join it to any assembly of the same part number at a later stage of production. As a result, you save time and cost when you specify Hyatt Hy-Roll Bearings. Hyatt Bearing Division, General Motors Corporation, Harrison, N.J.

HYATT **Hy-Roll Bearings**

IN ROLLER BEARINGS HYATT IS THE WORD FOR **RELIABILITY**



GENERAL MOTORS

Replacement bearings available through United Motors System and its authorized bearing distributors.



**WHAT'S
IN IT
FOR
YOU!**

BEARING DESIGN OF **EMERSON ELECTRIC MOTORS**

Is Self-Oiling, Self-Aligning to assure Free Starting and Smooth Operation at all times—The bronze bearing in Emerson Electric Motors has thousands of tiny cells that cause the bearing to act as a metal sponge and feed the shaft journal a controlled flow of lubricant. In cooling, it draws off excess oil to give free starting at low temperatures. Self-Alignment minimizes friction and greatly increases motor life when you install *Emerson Electric Motors* in your appliances and equipment. Emerson Electric Motors are custom-engineered to meet your specific needs. Call us today . . . you'll like our way of doing business!



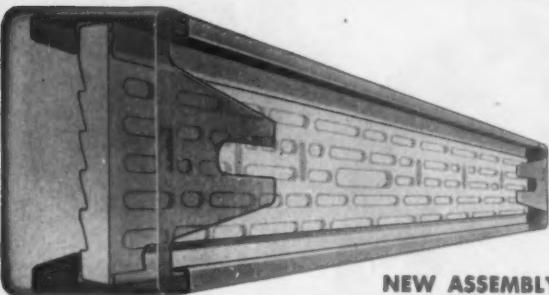
EMERSON ELECTRIC of St. Louis • Since 1890
DEPT. M 35, 8100 FLORISSANT • ST. LOUIS 36, MO. • CO 1-1800

For More Information Write No. 180 on Place Mark Card—Page 32

how one Roll Formed shape eliminated six clips and simplified an assembly

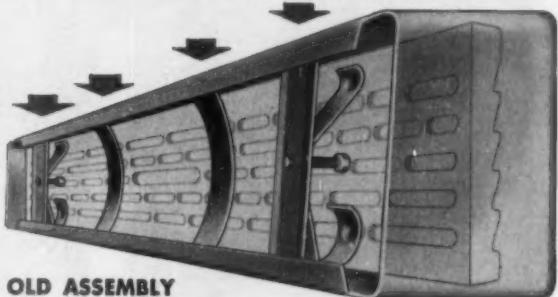


ROLL FORMED FROM
.025 STAINLESS AS SINGLE PIECE



NEW ASSEMBLY

6 CLIPS, 2 SCREWS & 2 SPEED NUTS



OLD ASSEMBLY

IN DESIGN

An expensive stamping and six clips went into this assembly. The stamping had a bad finish and cracked. Now it's Roll Formed from stainless. The finish is bright, shining and can't stain in use. Cracks are eliminated.

IN PRODUCTION

With the stamping the customer inserted a plastic strip and then welded the clips to retain the strip. Screws were positioned manually. Stampings were not uniform. Plastic breakage was high. The new Roll Formed section eliminates the welding operation, guarantees close tolerances, eliminates plastic breakage and cuts assembly time. Screws are not needed.

IN PURCHASING

Rejects were high. Components were hard to get and stampings came from separate suppliers. Deliveries were off-schedule. Now—Roll Formed sections come from one source and are delivered weekly to an open order. Stainless sections are interwoven with paper to protect finishes. Rejects have been eliminated.

CAN TECHNIQUES LIKE THESE HELP YOU?

Probably yes. The Roll Formed man can tell you. He'll go over your prints . . . work out an applicable section . . . plan deliveries with you. Meanwhile, you'll want Roll Formed Bulletin 1017A. It shows how Roll Formed techniques give greater design freedom, increase production and help eliminate purchasing headaches. Get Bulletin 1017A today.

METALS AND TECHNIQUES



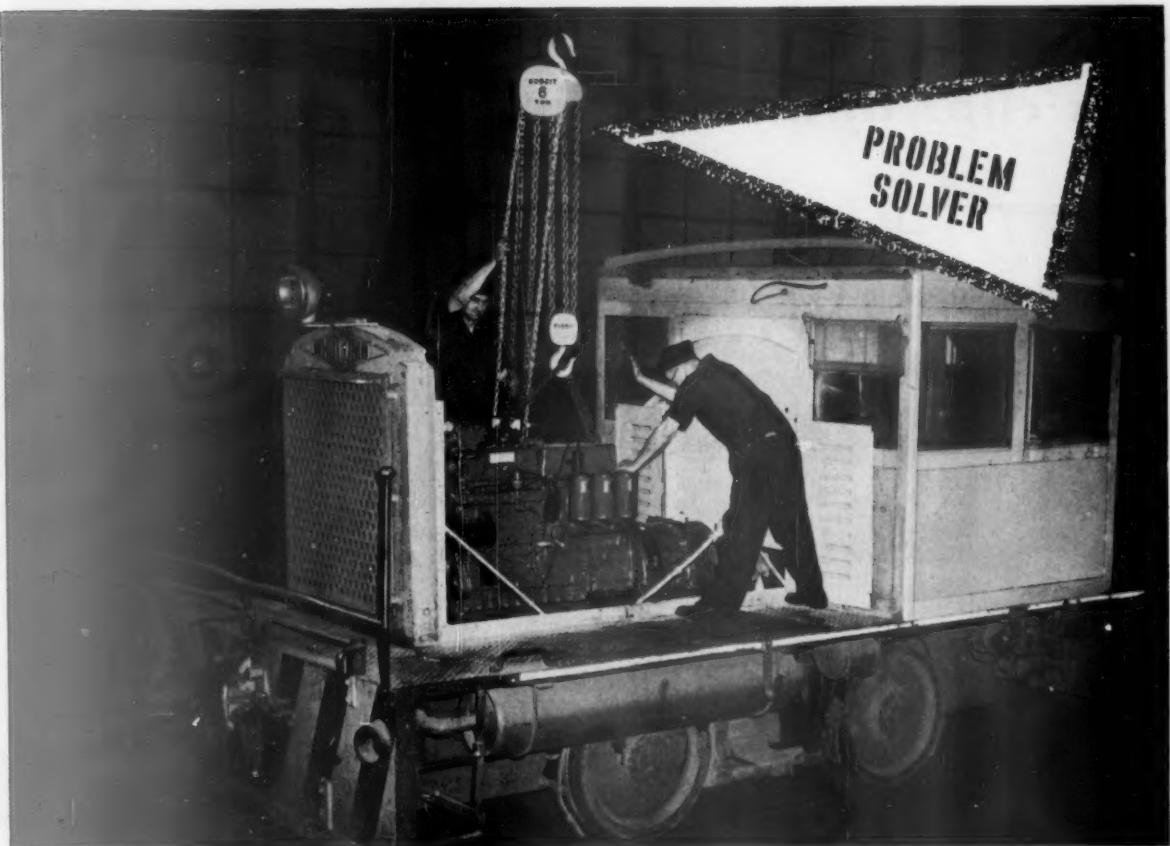
Your sections can be produced in: carbon, galvanized and stainless steel; aluminum, copper, zinc and clad metals. Tubing, shapes, channels and angles can be punched, notched, pierced, cut to length and delivered free of burrs to match your production schedule.

MAIN OFFICE AND PLANT

3754 OAKWOOD AVE., YOUNGSTOWN, OHIO

ROLL FORMED PRODUCTS

COMPANY



"BACKBREAKERS" wiped out by Budgit® Chain Blocks



* REGISTERED TRADE NAMES

60 C-1



BUDGIT CHAIN BLOCKS

A product of

MANNING, MAXWELL & MOORE, INC.

Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario

NEW SAVINGS

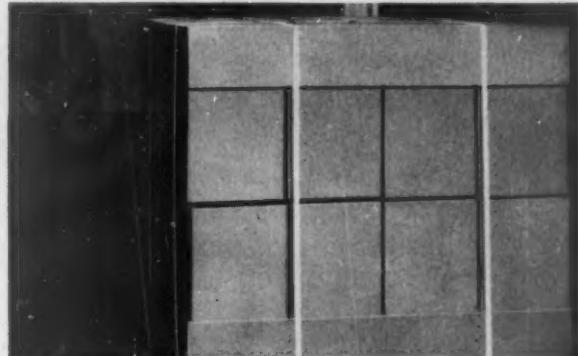


1 New strapping material—new low cost. Made of super-strong Avisco® rayon, AVISTRAP cord strapping costs less than metal strapping and reinforced tapes of comparable strength, offers many more important advantages.



3 Low cost per package. You invest less per package with AVISTRAP because its initial cost is low. In many instances, corner protectors can be eliminated. AVISTRAP is also extremely safe to handle, won't injure personnel.

2 Easy handling, lightweight. All coils of AVISTRAP cord strapping weigh 21 lbs. Yardage equals 100 lb. coil of comparable width steel strapping. Simple, low-cost dispensers permit replacement of coils in a few seconds.



4 Saves on shipping costs. AVISTRAP adds little weight to packages—as little as one-seventh the weight of steel strapping. Result: substantial savings for shippers. Also important, AVISTRAP won't damage merchandise.

AVISTRAP* CORD STRAPPING

Super Strength • Safety • Reduced Damage • Easy Handling • Locally Available



*Trademark of American Viscose Corporation. Patents pending.

AMERICAN VISCOSA CORPORATION, INDUSTRIAL PACKAGING DEPT.
1617 PENNSYLVANIA BLVD., PHILADELPHIA 3, PA.

Make Your Own Test (check to indicate request)

- Please send me sample and information.
 Please put me in touch with distributor nearest me.

Name. _____

Title. _____

Company. _____

Address. _____

City. _____ State. _____

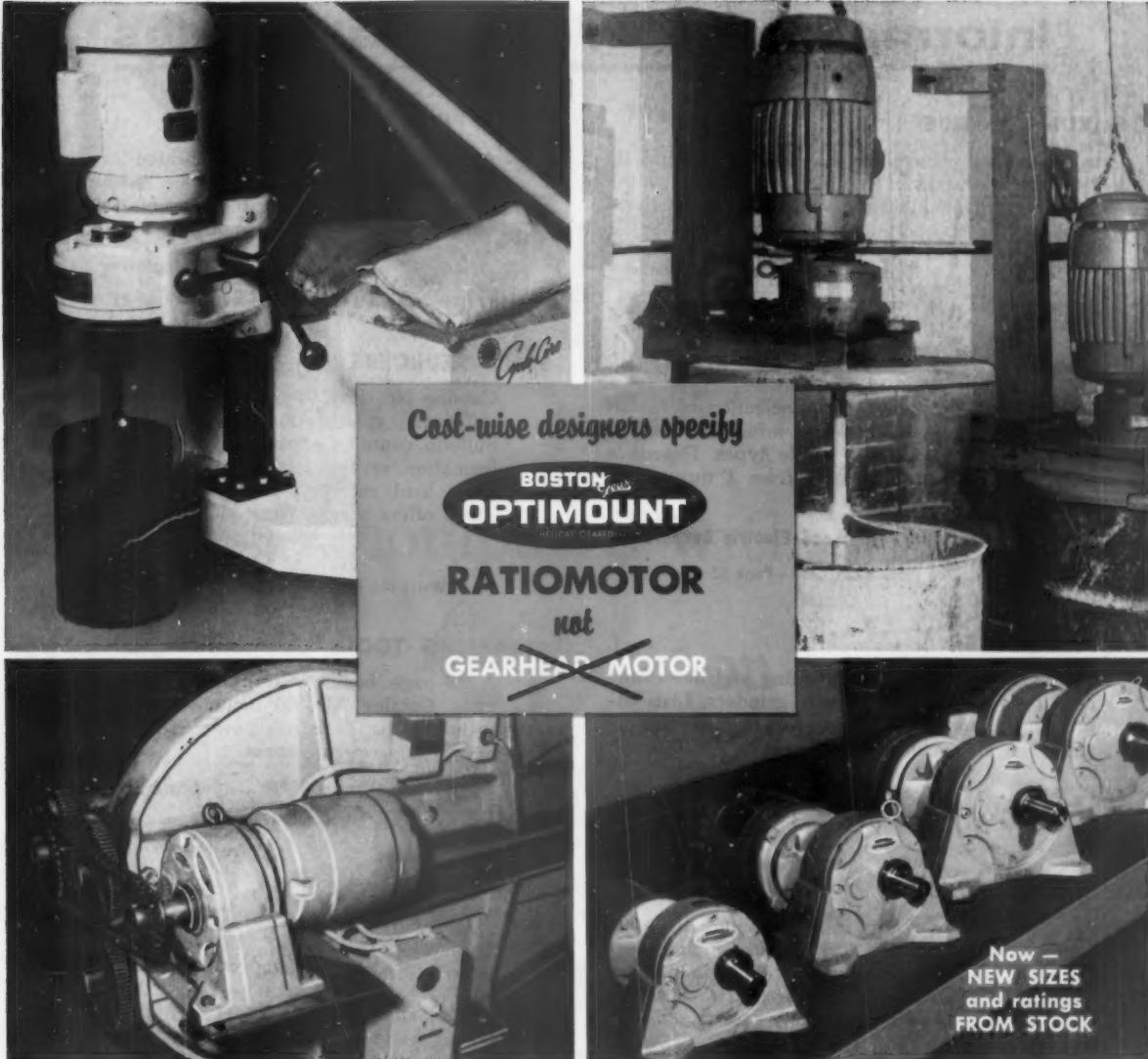


EVERY BRASS MILL HAS BUILDINGS AND EQUIPMENT
...but Only Bristol Makes Brass... "*Bristol Fashion*"

There are a lot of good brass mills with good facilities turning out good brass. But there is a difference at Bristol Brass . . . it's the veteran mill men whose *first* and *only* nature is to produce brass sheet, rod and wire in real "Bristol-Fashion". Brass that meets exacting specifications . . . delivered on time. The BRISTOL BRASS CORPORATION. For 110 years, makers of Brass strip, rod and wire in Bristol, Connecticut. Bristol Brass has offices or warehouses in Boston, Buffalo, Chicago, Cleveland, Dayton, Detroit, Milwaukee, New York, Philadelphia, Pittsburgh, Rochester, Syracuse. And for brass *forgings*, too . . . Accurate Brass Corp. (Subsidiary of The Bristol Brass Corp.), Bristol, Connecticut.

"BRISTOL FASHION" MEANS BRASS AT ITS BEST

For More Information Write No. 184 on Place Mark Card—Page 32



Cost-wise designers specify

BOSTON *Gear*
OPTIMOUNT
DESIGNED FOR MACHINERY

RATIOMOTOR

not

~~GEARHEAD MOTOR~~

Now —
NEW SIZES
and ratings
FROM STOCK

This simple change in specifications starts savings all along the line

BOSTON Gear OPTIMOUNT helical-geared RATIOMOTORS offer a choice of 456 mounting combinations, available FROM STOCK — save you the extra cost and the wait for "specials." You design for highest efficiency, then a phone call to your local Distributor brings you the OPTIMOUNT you specify — ready to install. He can furnish any quantity, and supply them as needed. You avoid big inventory expense, save production time.

You can order OPTIMOUNT Ratiomotors horizontal or vertical base mounted — with a choice of many shaft positions in either base — for any floor, wall, or ceiling mounting position — with single or double reduction helical gearing — for $\frac{1}{2}$ to 10 hp drives. You get any arrangement specified, ready to install.

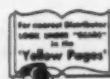
Call your Distributor today for complete information. Boston Gear Works, 74 Hayward Street, Quincy 71, Massachusetts.

See OPTIMOUNT at
BOSTON GEAR BOOTH NO. 1808
DESIGN ENGINEERING SHOW

CALL YOUR
NEARBY
BOSTON
DISTRIBUTOR *Gear*



Ask Distributor for
NEW PRODUCTS
SUPPLEMENT
to Catalog No. 57



— STANDARDIZATION PAYS —

Information For Your Catalog Files

CALCIUM CARBIDE

A 16-page brochure on calcium carbide and its derivative, acetylene. Describes and illustrates the manufacture. Includes a simplified flow chart and photographs of operations.

Air Reduction Co., Inc.

Write No. 1 on Place Mark Card—Page 32

CIRCUIT BREAKERS

An eight-page catalog on the selection of circuit breakers. Covers standard and miniature thermal units and push-pull and toggle types. Describes units with capacities ranging from 1 through 50 amps.

Wood Electric Corporation

Write No. 2 on Place Mark Card—Page 32

DISC GRINDERS

An eight-page catalog illustrating and describing high production precision disc grinders. Lists dimensions and specifications for both horizontal and vertical machines.

Besly-Welles Corporation

Write No. 3 on Place Mark Card—Page 32

ELECTRICAL CONDUIT

A 32-page manual on rigid aluminum electrical conduit. Describes physical properties and performance in indexed charts, tables, and text. Covers weights, dimensions, corrosion resistance, installation cost data, and safety factors.

Kaiser Aluminum and Chemical Corporation

Write No. 4 on Place Mark Card—Page 32

FORK TRUCKS

Bulletin SS-478 describes and illustrates battery-powered fork trucks of 7000-lb. capacity. The four-page catalog contains dimensional and engineering specifications. Includes a capacity chart and a table of upright dimensions.

Clark Equipment Company

Write No. 5 on Place Mark Card—Page 32

SCALES

Booklet #Y70 describes heavy duty scales. Includes portable, dormant, lift-truck, and overhead track scales, as well as those for packing, counting, and mailing operations. Also illustrates and describes automated weighing equipment.

Detecto Scales, Inc.

Write No. 6 on Place Mark Card—Page 32

SHEET POLISHING MILLS

An eight-page two-color illustrated catalog describing sheet polishing mills for finishing metal sheets, plates, and coils. Includes typical applications, case histories, and sample floor layouts.

Acme Manufacturing Company

Write No. 7 on Place Mark Card—Page 32

SPEED REDUCERS

Catalog No. HM 60 covers horizontal motorized differential speed reducers. The 16-page two-color bulletin contains engineering data, mounting information, service factors, horsepower, and overhung load ratings for seven models. The new series offers a ratio range of 1:1 to 50,000:1.

Winsmith Inc.

Write No. 8 on Place Mark Card—Page 32

STRAPPING TOOLS

A 16-page booklet on powered steel strapping tools. Catalog AD-300 includes illustrations and specifications. Discusses power strap feed assemblies and accessory items.

Acme Steel Company

Write No. 9 on Place Mark Card—Page 32

SWITCHGEAR

Bulletin #2801-2A describes a line of 4160-volt metal-clad switch-gear. The two-color 20-page catalog presents design, construction, and performance features. Includes charts, tables, photographs, and diagrams. Panel layouts and dimensions for standardized units are provided.

I-T-E Circuit Breaker Company

Write No. 10 on Place Mark Card—Page 32

TEMPERATURE REGULATORS

Catalog J180-1 contains full information on sliding gate and plate temperature regulators. The eight-page bulletin is illustrated by photos, cut-sections, and line drawings. Includes features, applications, sizing charts, flow curve, sample specifications, and engineering information.

OPW-Jordan

Write No. 11 on Place Mark Card—Page 32

THERMOCOUPLE WIRE

Catalog C-100-2 covers thermocouple wire. The 12-page bulletin also describes extension wire, bare and insulated. Includes list prices and ordering directions.

Minneapolis-Honeywell Regulator Co.

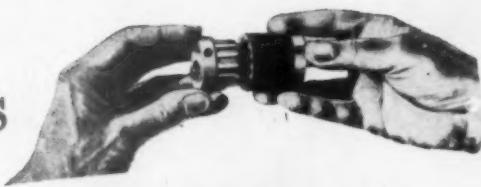
Write No. 12 on Place Mark Card—Page 32

PURCHASING



POWERGRIP FLEXIBLE COUPLINGS

These couplings are so simple in design that their cost is **LOW** compared with other couplings. Insist on having U.S. PowerGrip Flexible Couplings tried on your machinery and then watch your costs go down. Installation is quick and easy. No maintenance, no lubrication.



on having U.S.

PowerGrip Flexible Couplings tried on your machinery and then watch your costs go down. Installation is quick and easy. No maintenance, no lubrication.

Call now!



The only way to get expert transmission engineering is through your U.S. Rubber Transmission Distributor.



Mechanical Goods Division

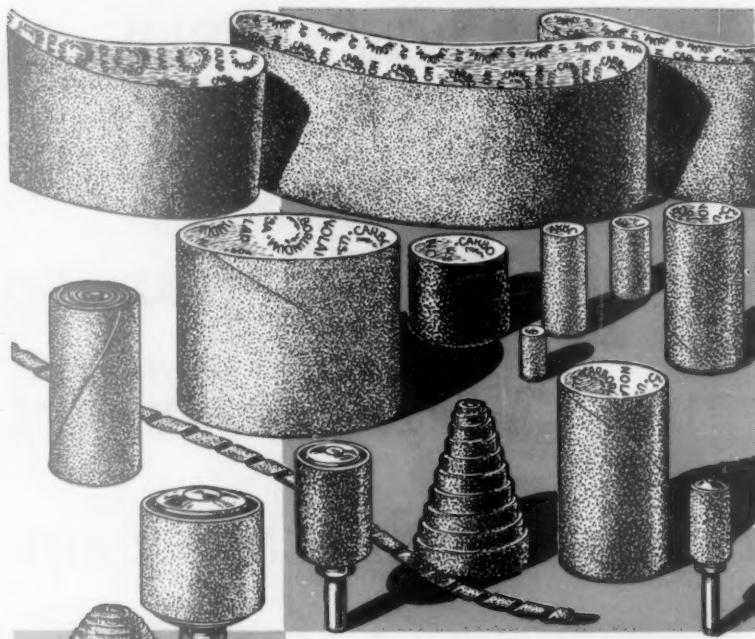
United States Rubber

WORLD'S LARGEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

Rockefeller Center, New York 20, N.Y.

In Canada: Dominion Rubber Company, Ltd.

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A BRASIVES



Send for our
LATEST FOLDER
giving complete data.

SAMPLES gladly
furnished of the grit
and size you desire.

Cleveland No-LAP Abrasive
Sleeves and Expanding Drums,
Belts, Smoke Hole Cleaners and
Abrasive Cartridge Rolls and
Mandrels . . .

MEET EVERY NEED

... in sanding, polishing and
cleaning up.

CLEVELAND ABRASIVES

give long wear, and their constant
cutting surface means improved
performance!

Whether the job be great or small,
Cleveland Abrasives save time, money
and effort.

For Quality products . . . call CLEVELAND!

THE **CLEVELAND CONTAINER**

COMPANY

8201 BARBERTON AVE. • CLEVELAND 2, OHIO

ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS
SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

CLEVELAND CONTAINER CANADA, LIMITED
Plants & Sales Offices: Toronto & Prescott, Ont. • Sales Office: Montreal

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Sales Offices:
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New York City
Washington, D.C.
Rochester, N.Y.
West Hartford,
Conn.

Abrasive
Division
at Cleveland

Catalog Files

TRANSFORMERS

Bulletin GEA-6832A describes a line of distribution equipment transformers. The eight-page catalog includes photos and data on three-legged core construction models from 300 to 2500 kva and stacker-type units rated from 11½ to 225 kva. Has tables, diagrams, and construction details.

General Electric Company

Write No. 13 on Place Mark Card—Page 32

TUBING

Technical bulletin 12-10 covers the selection of steel tubing. Includes type, finish, analysis, formability, machinability, weldability, and relative cost. Also discusses size range, wall thicknesses, and stock lengths.

Joseph T. Ryerson & Son, Inc.

Write No. 14 on Place Mark Card—Page 32

VALVES

Catalog No. 60 covers a line of bronze valves. Includes screw end and sweat end valves, as well as a variety of gas cocks, check valves, radiator valves, circulator valves, and balancing elbows. Has dimension charts and diagrams.

American Valve Manufacturing Co.

Write No. 15 on Place Mark Card—Page 32

VENTILATING SETS

Catalog 1160 discusses a line of direct connected and V-belt driven ventilating sets. Provides engineering data for models with volumes up to 21,500 cfm and static pressures up to 2½ inches of water.

Westinghouse Electric Corporation

Write No. 16 on Place Mark Card—Page 32

WIRE

Catalog DH-1226-A describes shaped wire. The 16-page bulletin contains information on methods of calculating areas of common shapes. Includes physical properties of steel wire, table of standard wire gauges, and hardness conversion tables.

American Chain & Cable Co. Inc.

Write No. 17 on Place Mark Card—Page 32



Look what happened when the Manager made towels his "paperwork"

This manager, like all cost-conscious executives, knew that the so-called small items often make the difference between high maintenance costs and reasonable ones. In order to bring maintenance costs into line, he figured a good place to start would be to check the cost of paper towels in washrooms. He made a complete investigation.

The result: first-year savings of over 20% by switching to Fort Howard Towels and Tissue.

This saving was made possible because Fort Howard Towels and Tissue are available in a wide range of quality and in all well-accepted rolls and folds. This means that costs can be cut by selecting the proper grade, fold or roll, and price range required to meet your exact needs.

There is a Fort Howard representative nearby, anxious to demonstrate how you can maintain fine service and still cut washroom expense.



Fort Howard Paper Company

Green Bay, Wisconsin

Sales Offices in New York, Chicago, Los Angeles

America's Most Complete Line of Paper Towels, Tissues and Napkins

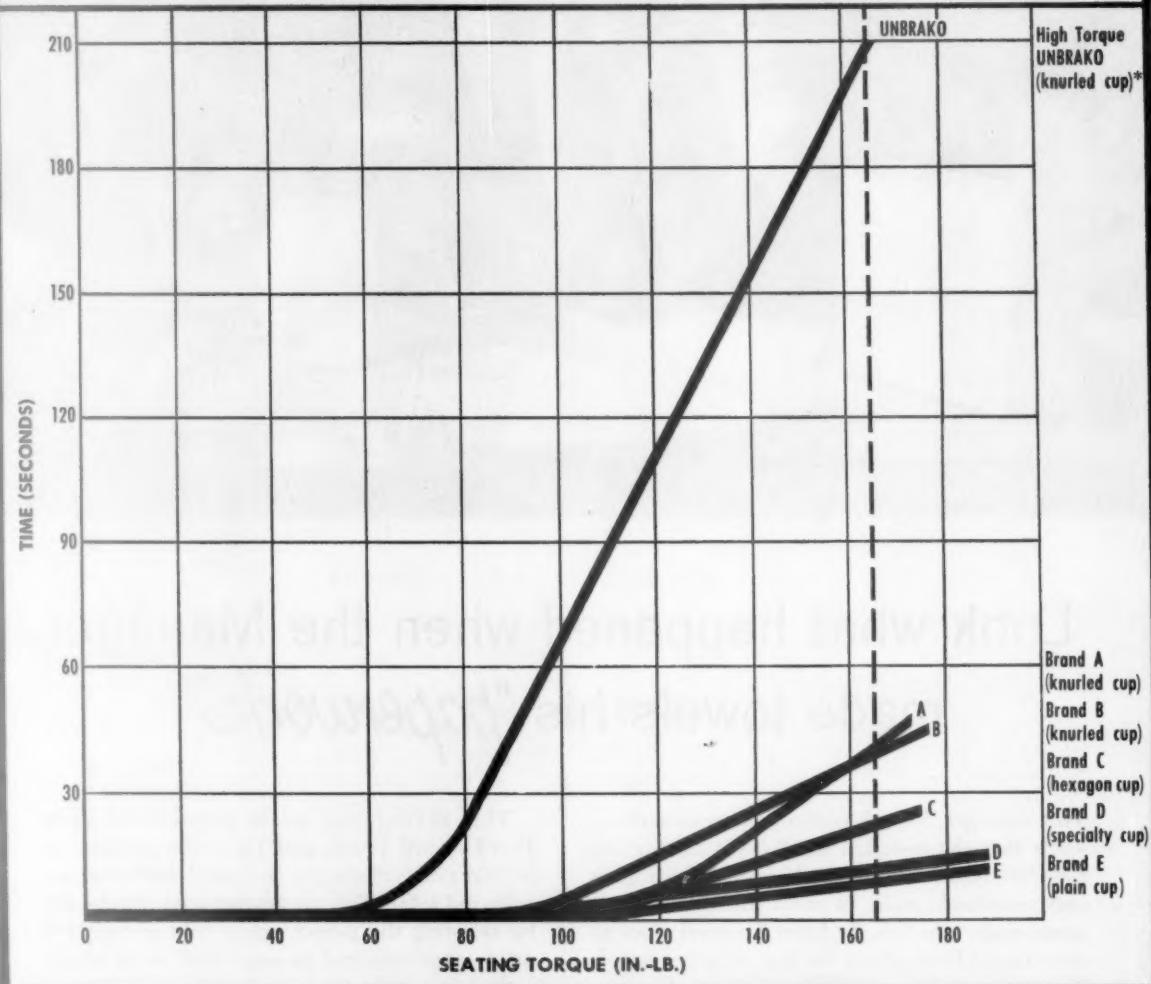


© Fort Howard Paper Company

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What else is there to say?

HOLDING POWER UNDER IMPACT-INDUCED VIBRATION
 $5/16\text{-}18 \times 5/16$ Socket Set Screws (1750 cycles per minute)



*Standard . . . and at no extra cost!
 For size range and price information,
 contact your local UNBRAKO
 distributor or write
 Standard Pressed Steel Co.,
 Industrial Fastener Division, SPS,
 Jenkintown 31, Pa.



where reliability replaces probability



For More Information Write No. 189 on Place Mark Card—Page 32

Have a
Metal Cleaning
Problem



Detrex Engineers Have Been Coming Up With "Cost Saving" Answers for 30 Years

Every metal cleaning operation has its own particular problems—but they're seldom new to the Detrex engineer. With 30 years of experience, he can produce the right formula to insure maximum productivity and economy in your operation.

He will analyze your product, the type of soil to be removed, the proper equipment and cleaning agent needed, the space and manpower required—every factor that bears on the problem.

When he gives you his recommendation, you can depend upon it to make sense—and save dollars. And when you put his recommendation into practice, you can depend upon Detrex to follow through with the finest service in the business.

Depend on DETREX for Every Metal Cleaning and Processing Need

- PERM-A-CLOR NA
(Trichlorethylene)
- Solvent Degreasers
- Ultrasonic Equipment
- Industrial Washer
- Phosphate Coating Compounds
- PAINTBOND Compounds
- Aluminum Treating Compounds
- Alkali and Emulsion Cleaners
- Rustproofing Materials
- Extrusion and Drawing Compounds
- Spray Booth Compounds

DETREX

CHEMICAL INDUSTRIES, INC.

Box 501, Dept. P-860, Detroit 32, Michigan

World's Largest Exclusive Producer of Cleaning Chemicals and Equipment

For More Information Write No. 190 on Place Mark Card—Page 32

AUGUST 15, 1960

49

I was in the doghouse



until I learned about pressure-sensitive labels!

All the aspects of the highest quality pressure-sensitive labels combine in Ever Ready's RED-E-STIK® to give you truly outstanding performance:

- Cleaner application — no water-heat-glue needed. Save time and labor.
- Strips fast—sticks to any smooth surface.
- Won't curl, crawl or pucker — stays fresh and neat.
- Almost any size, shape or color. Sheet, roll or split-back.
- AUTOMABELS, marginally punched for electronic operation.
- RED-E-GRIP — permanent adhesive — holds with an iron grip.
- RED-E-PEEL adhesive — holds tight, but peels easily — leaves no residue.



357 Cortlandt Street, Belleville 9, N. J.

Gentlemen:

- Please send me information regarding Red-E-Stik pressure sensitive case histories.
 Please send me information on how to swap samples of our label for 100 humorous labels.

Name

Company

Street Address

City, Zone, State

For More Information Write 191
on Place Mark Card—Page 32

Letters To The Editor

CAVEAT EMPTOR

Dear Sir:

Please send 20 reprints of the article "Buyers Beware — The Racket Boys Are Back."

E. J. Thon

Purchasing Agent
Eastern Stainless Steel Corp.
Baltimore, Maryland

Dear Sir:

I would like to have six reprints of "The Racket Boys Are Back" as printed in the July 18 issue.

The article is excellent. May I also compliment Paul Farrell on his editorial in the same issue.

George Clayton
Bonney Forge & Tool Works
Alliance, Ohio

Dear Sir:

The article on the racket boys is most interesting. I should like to obtain 50 reprints of the article for distribution among our buyers and plant personnel throughout the U. S. and Canada.

W. S. Morrow
International Milling Company
Minneapolis, Minnesota

Dear Sir:

We would appreciate receiving two reprints of the article "The Racket Boys Are Back" which starts on page 72 of the July 18 issue.

E. J. Minch
Sheller Manufacturing Corp.
Portland, Indiana

Dear Sir:

Several years ago we had several contacts by the same type of operator as described in your July 18 issue.

These people were always European born and the story they told was so similar to the circumstances you outline, it is amazing. Fortunately, we did not purchase any of their material.

It was only after two or three calls, at least, that they finally gave up and I don't think they have returned to our plant in perhaps ten years.

We have not been approached as yet by the "Metal Plating Boys" but, if they are operating as extensively as indicated in your article, we may see them tomorrow.

I would like very much to receive 15 copies of the article for distribution to our purchasing department personnel and others in our plant who may be contacted.

F. C. Huegel
Gisholt Machine Company
Madison, Wisconsin

Dear Sir:

We are very much interested in Paul Farrell's editorial "This Is About Crooks" and the article which followed it, "The Racket Boys Are Back."

I would like to distribute each of these to our purchasing agents.

Would you please let me know the price for a thousand?

Milton Hecht
Hecht Rubber Co., Inc.
Jacksonville, Florida

• These are a few of the letters we received about the article "Buyers Beware — The Racket Boys Are Back," which appeared in the July 18 issue. Reprints are available at the following rates:
Less than 10 copies 25¢ each
10 to 100 copies 10¢ each
Over 100 copies 5¢ each

For reprints, write to: Reprint Dept., PURCHASING Magazine, 205 East 42 Street, New York 17, N. Y.



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A HAPPY
ENDING
TO YOUR TUBING
PROBLEMS**

Top refrigeration people depend on top tubing people!

Comprehensive GM Steel Tubing facilities quickly deliver your tubing processed to slip into your production line like an eel through oil. Typical are facilities for end-processing tubing to your requirements. We can hold O.D. or I.D. tolerances to a plus or minus .0015" by end sizing. And by swaging, your O.D. tolerances can be held as close as plus or minus .002". You can have external beading or recessing and we can rod draw to exceptionally close tolerances. Shearing, upsetting, flattening, piercing—we do all of them expertly. Just ask a GM Steel Tubing Sales Engineer. We're at your service. Rochester Products Division of General Motors, Rochester, New York.



**STEEL TUBING
BY ROCHESTER PRODUCTS**

AMERICA'S LARGEST MANUFACTURER OF REFRIGERATION TUBING

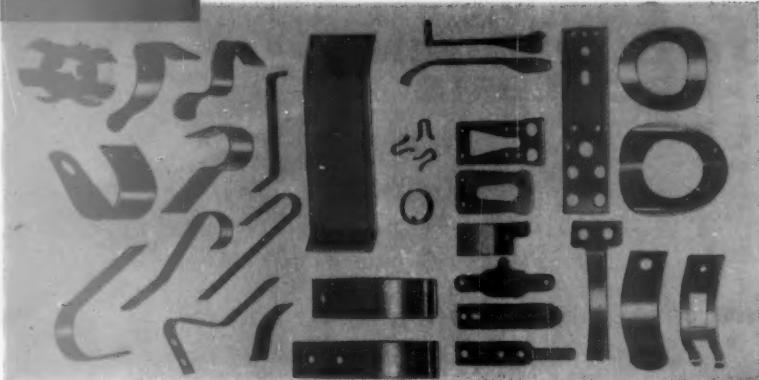


For More Information Write No. 192 on Place Mark Card—Page 32

SANDVIK

SPRING STEEL QUALITY

Earns Its Pay By PRECISE PERFORMANCE



Where performance is important, Sandvik spring steel quality is well worth its price. Many spring steel users have found that Sandvik delivers the *exact* performance they want under their tools and in their products.

Sandvik's purity, small lot processing and painstaking quality control assures your money's worth in consistent quality performance.

In addition to the wide variety of qualities and sizes carried in stock, Sandvik has local facilities for custom-processing and finishing to your requirements.

For specific physical properties plus accurate flatness, straightness, width, gauge and edge finish, specify a Sandvik spring steel.

Send for free brochure on various Sandvik cold rolled and hardened and tempered strip steels.

Strip thickness is checked during rolling and at final inspection with a "Delta-meter," an instrument developed at Sandviken for measuring variations of thousandths of a millimetre.



Letters

(Continued from page 50)

COAST TO COAST ACCLAIM

Dear Sir:

Your June 20 convention issue of PURCHASING Magazine is an excellent, comprehensive documentation of the National Association of Purchasing Agents Convention in Los Angeles.

Many thanks for the kind words regarding the program. And, also, many thanks for crediting the members of the Los Angeles Association for their work in handling the many details of staging a convention. They will be pleased, indeed, with recognition of their efforts by PURCHASING Magazine.

Victor Quam

Chief Deputy Purchasing Agent
County of Los Angeles, Calif.

Dear Sir:

Please accept my congratulations for the wonderful issue you published on June 20.

The resume of the N.A.P.A. convention should prove to be one of the most useful reference volumes which your magazine has published in some time. I know I shall find it very useful in presenting my course in Industrial Purchasing at the Graduate School of Stevens Institute this fall.

E. M. Krech

Director of Purchases
J. M. Huber Corporation
Hillside, New Jersey

KELLOGG KUDOS

Dear Sir:

I have just finished reading with extreme interest Ned Kellogg's article "How Celanese Saves . . ." which appeared in the June 6 issue of PURCHASING Magazine.

It is one of the most informative articles on cost reduction which I have ever read and it is extremely well presented.

J. W. Wilkinson
Purchasing Agent
Armstrong Cork Company
Lancaster, Penna.

SANDVIK STEEL, INC.

1702 Nevins Road, Fair Lawn, N. J.
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Works: Sandviken, Sweden

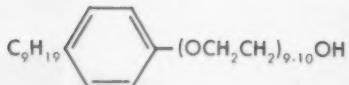


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NEW FROM DOW

VERSATILE
NONIONIC
SURFACTANT



DOWFAX 9N9

Nonyl phenol-polyethylene glycol ether
proves interesting to all
nonionic surfactant users

Industry has shown a wide acceptance of the nonyl phenol-ethylene oxide nonionic surfactants, particularly the nonyl phenol condensate having 9-10 moles of ethylene oxide.

Dow now offers commercial quantities of this multipurpose nonionic surfactant under the trademark Dowfax® 9N9. Whatever your field of manufacturing, formulating, or processing may be—agricultural toxicants, latex paints, household detergents, industrial cleaners, textiles, leather, metals, paper, or petroleum—you will want to investigate what this product can do for you.

And while you're at it, you may also wish to investigate other members of the Dowfax 9N surfactant family, available in sample quantities, as well as Dow's new anionic sulfonate-type surfactant, called Dowfax 2A1.

Literature and samples of Dowfax 9N9 are as near as your closest Dow sales office. Or, write THE DOW CHEMICAL COMPANY, Technical Service and Development, Midland, Mich., Dept. 602EE8-15.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

AUGUST 15, 1960

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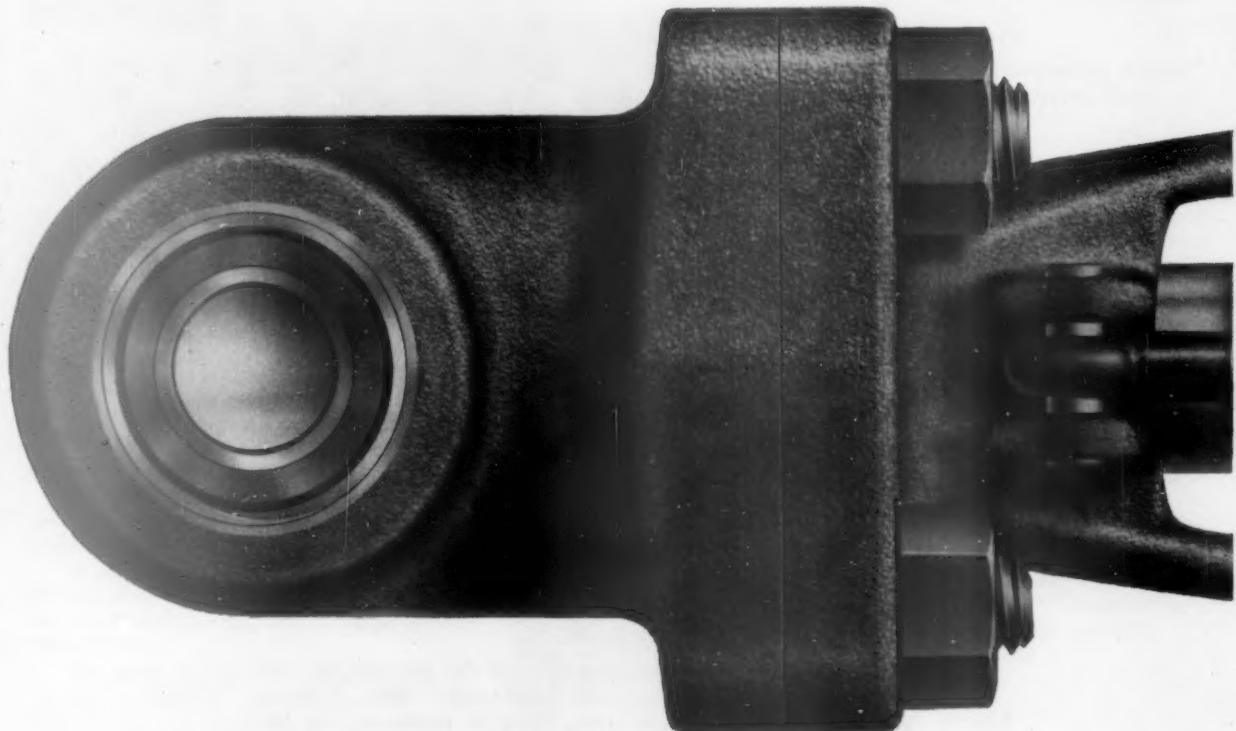
Reporting more news from...

CRANE DIRECTION'70



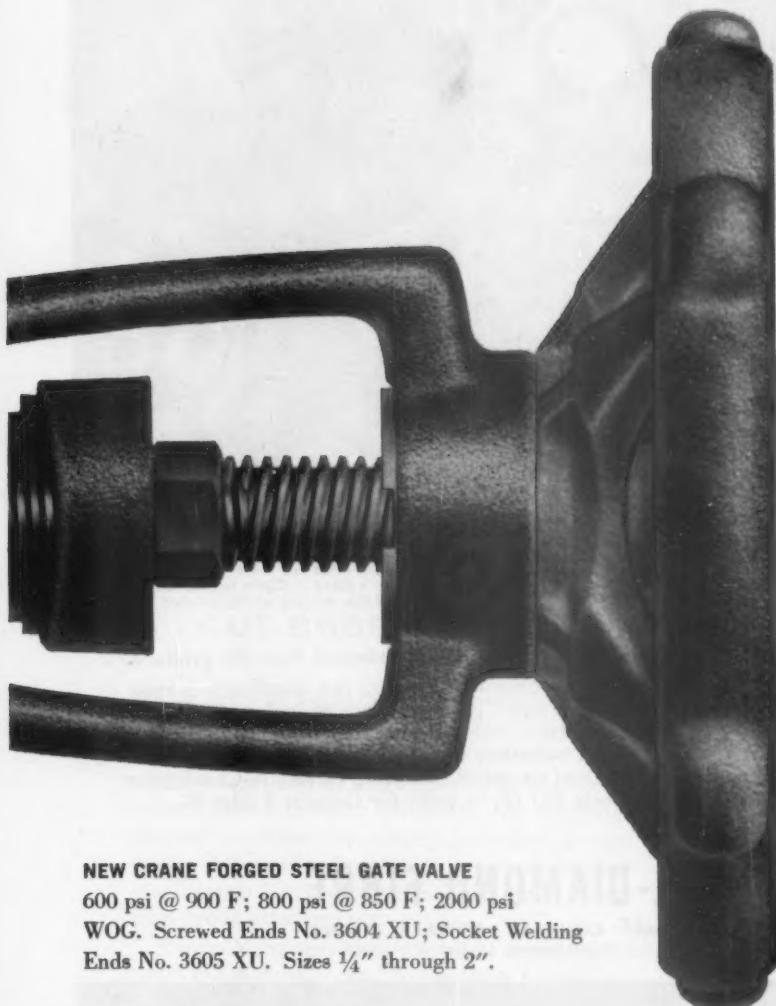
... a fast-moving program of planned expansion, product development, and streamlined distribution to help our customers meet the competitive challenges of the Sixties.

COMPLETELY



REDESIGNED!

THE NEW SMALL FORGED STEEL GATE VALVE



NEW CRANE FORGED STEEL GATE VALVE

600 psi @ 900 F; 800 psi @ 850 F; 2000 psi WOG. Screwed Ends No. 3604 XU; Socket Welding Ends No. 3605 XU. Sizes $\frac{1}{4}$ " through 2".

This is a whole new valve, not just one with a new feature added. This redesign incorporates all the features you told us you wanted plus a few others we know will make this valve a better buy in terms of longer service life, less maintenance, easier and faster servicing.

Like the new "bow-leg" yoke, which for the first time gives you plenty of hand room for easy stuffing box maintenance. And like the long-life braided asbestos packing, with Inconel wire insert. The "universal" trim that can be used for either oil or steam, eliminating many of your stocking problems. The spiral wound stainless steel bonnet gasket with asbestos filler, made blowout-proof with a male-female joint.

But what we really want you to remember, more than any single feature, is that this Crane valve is the newest—all new—valve on the market... well worth considering when you need small, high-pressure steel gate valves. We'd like you to compare this new valve with any other comparable valve feature for feature.

Your local Crane distributor has technical literature and a complete selection of these valves right in stock. Call him on small steel gates. In fact, he's your best bet to call no matter what valve you want because he carries the broadest line of quality valves in the world.



CRANE CO., INDUSTRIAL PRODUCTS GROUP
4100 S. KEDZIE AVE. • CHICAGO 32, ILL.
VALVES • ELECTRONIC CONTROLS • PIPING
PLUMBING • HEATING • AIR CONDITIONING

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AUGUST 15, 1960

55

SOLVING MATERIAL DESIGN PROBLEMS FABRICATING



Buy the parts not the problems. From large and unusual shapes to parts so small you inspect with a jeweler's glass... CDF's special fabricating facilities can do your job faster, more economically. Every part shown above is fabricated by CDF, except the etching of the printed circuits.

There's an excellent chance you can save on set-up and production time, and reduce unit costs by asking CDF to give you an estimate on final fabrication of laminated plastics, vulcanized fibre and electrical insulating materials.

Our machines, all 2,000 of them, are set up for just one purpose—the forming, machining and molding

of the many types of materials that we produce. Most important of all, you can combine economy with the exact properties you're looking for. CDF offers you a choice of materials from the industry's widest selection of laminated plastics, vulcanized fibre and electrical insulating materials. Check your Sweets PD file or write for General Folder 60.



CONTINENTAL-DIAMOND FIBRE
A SUBSIDIARY OF THE *Baile Company* • NEWARK 41, DEL.
In Canada, 46 Hollinger Road, Toronto 16, Ont.

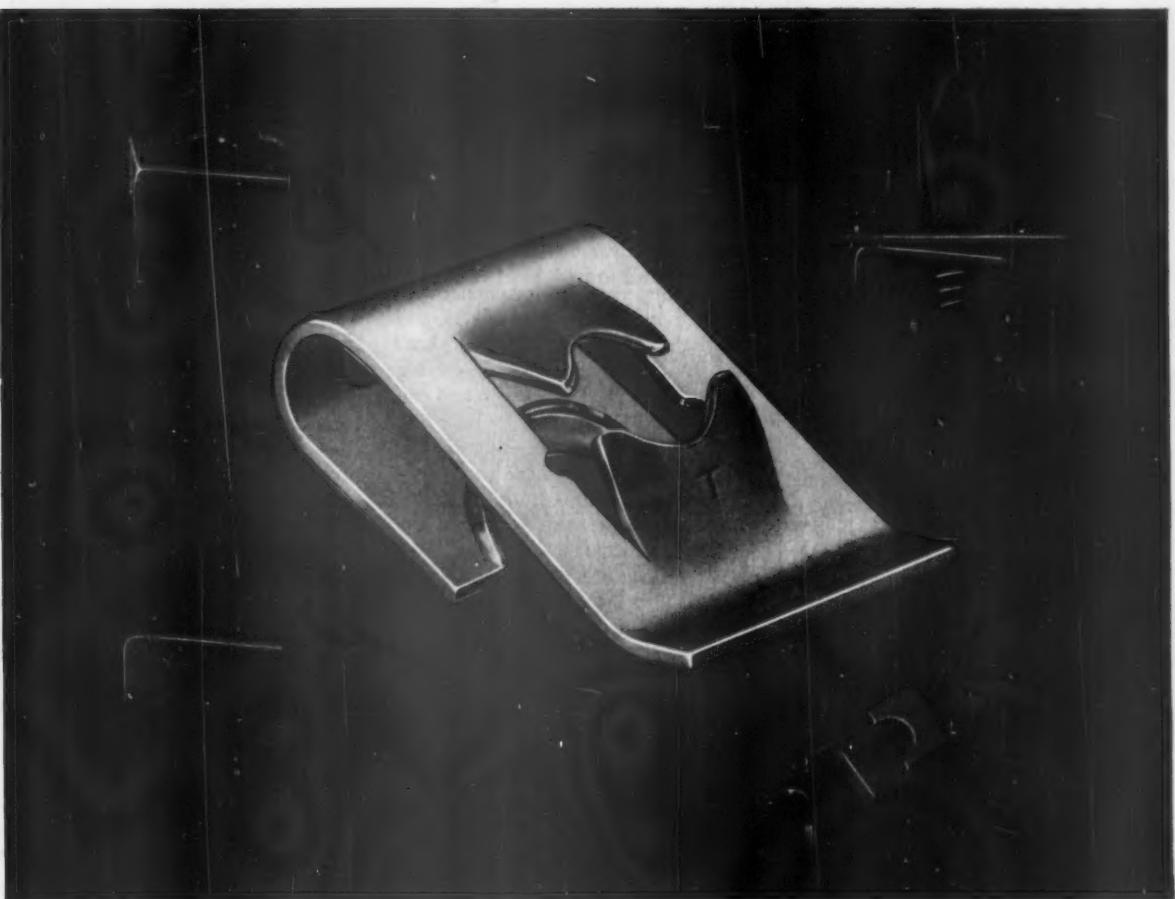


Machining low-cost tracks for sliding glass doors. Made by CDF from Diamond vulcanized fibre. It's tough, yet light in weight.

Molding automobile timing gear blanks made from CDF's Celoron molding material for maximum wear and a minimum of noise.

Postforming back-up disc for a sander. Made from a Dilecto laminated plastic to get maximum toughness and resiliency.

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Another Tinnerman Original...

Self-retaining "U" and "J" SPEED NUTS® cut assembly costs up to 50% or more!

If you are worried about rising assembly costs, let one-piece "U" and "J" SPEED NUTS keep costs down... and improve your product.

They can't fall off, once they've been pressed into screw-receiving position. No welding, staking or other secondary fastening devices needed. You eliminate lock washers—spring steel SPEED NUTS are self-locking, make vibration-proof attachments.

SPEED NUTS are ideal for blind assembly or hard-to-reach locations. Apply them *before* you paint panels without danger of paint-clogging. Or *after* porcelainizing, without damage to finishes. The "U" type is similar to the "J" type, shown above, but is used where full bearing surface on the lower leg is required.

A free Fastening Analysis can tell where SPEED NUT brand fasteners belong on your

products. Call your Tinnerman representative—he's listed in most major telephone directories. Or write to:

TINNERMAN PRODUCTS, INC.
Dept. 12 • P. O. Box 6688 • Cleveland 1, Ohio

TINNERMAN

Speed Nuts®



FASTEST THING IN FASTENINGS®

CANADA: Dominion Fasteners Ltd., Hamilton, Ontario. GREAT BRITAIN: Simmonds Accessories Ltd., Trefforest, Wales. FRANCE: Simmonds S.A., 3 rue Salomon de Rothschild, Sarcelles (Seine). GERMANY: Meccano-Buddy GmbH, Heilbronn.

For More Information Write No. 197 on Place Mark Card—Page 32

NEW IDEAS IN COPPER ALLOY ROD AND WIRE

Interesting things happen when you add a spot of zirconium or chromium to copper—four high-conductivity coppers that boost production, cut cost of machining—even plain old free-cutting brass rod is going fancy.

There's a quiet revolution going on in copper metallurgy. Research and development teams are expanding the useful knowledge of copper and copper alloys in an effort to define the properties most suitable for specific engineering applications.

STABILITY at elevated temperature, combined with good electrical conductivity, is probably a combination most sought after by design engineers and by our industry's research teams. Two alloys are now commercially available, and the alloy systems are unique. Chromium copper and zirconium copper are heat-treatable alloys with good stability of mechanical properties up to temperatures in the order of 600 F.

CHROMIUM copper in the fully heat-treated condition following a solution anneal will exhibit properties combining a tensile strength of about 75,000 psi with conductivity of approximately 80% IACS. Zirconium copper has good stability characteristics at elevated temperatures and conductivity of 90 to 95% IACS; the strength properties developed by heat treating are, however, somewhat lower than chromium copper.

SEVERAL other heat-treatable copper alloys with intermediate properties are gaining recognition in the connector and electronics fields. These alloys fall into a conductivity range of 35 to 65% IACS, with tensile strengths 90,000 to 100,000 psi. The most popular alloy systems are the copper-nickel-phosphorus and copper-nickel-silicon series with modifications for free machining or other specific requirements. These alloys have a solution annealing temperature about 100 to 200 C lower than the chromium and zirconium coppers.

THE WIDESPREAD use of panel or harness construction for linking segments of electrical control devices has made the requirement for free-cutting coppers mandatory. Screw machine shops are fabricating these connector components of various designs by the millions. Currently the most popular free-

cutting coppers are leaded copper with conductivity of about 98% IACS, and tellurium and sulfur coppers at about 95% IACS. Some of these free-cutting coppers have residual oxygen and can become brittle or gassed under the usual conditions contributing to this phenomenon. All, however, can be obtained with a combination of deoxidizers or oxygen-free copper. In the case of the deoxidized variety, some slight sacrifice in conductivity will be noticed. Ordinary usage very seldom requires conductivity in excess of 90% IACS—and this presents no problem for these coppers.

ALL of these coppers can be cold worked without too much trouble. They can be supplied in a suitable wire temper for cold heading and secondary operations designed around the basic alloy system. Up to now there has not been too much interest in these alloys for wire forming or heading operations. Close dimensional tolerances may be the reason for the reluctance of the heading people to get into the electrical connector business. Alloys are available with the ductility and mechanical properties necessary for this type of forming. It would appear that some of the products could be made more economically by cold-heading or wire-forming operations.

RECENT TRENDS have also affected the old brass and copper reliables. There can't be any product more prosaic than free-cutting brass rod; it is the cheapest of such commodities and at one time was the easiest to process—all one had to do was to extrude, draw to finish dimensions, and ship. In many cases this practice won't work today. Deep drilling, roll threading, knurling, staking, slotting, etc., have complicated the picture, but the latest efforts of the screw machine builders have laid this ghost to rest. We now hear of beta-free rod for close tolerances on deep-drilling applications. Similar grain structures, but not necessarily the same temper, are required for roll thread-

ing, knurling and staking or whenever extra ductility is needed. Along with the consideration of grain structure, it has been necessary to take advantage of the broad chemical composition range for free-cutting brass. Most suppliers divide the standard range into two parts, utilizing the lower copper range for the larger sizes that will normally be machined on the heavier, faster screw machines where chip breaking and clearing the tools are the most important considerations. This might be considered the rough, breakdown type of stock.

FOR the smaller diameters, specialization has been the watchword. Depending on specific needs, you can now obtain free-cutting brass rod with all-alpha, fine-grained structure or an alpha-beta fine-grained extruded structure, or possibly a combination of both. For certain applications you might need a coarse-grained, all-alpha structure. Lead dispersion and lead content are other variables that can and will be controlled to meet fabricating or end-use requirements.

IN the cold-heading industry, advantage is being taken of the wider selection of copper and copper alloys that is available today. The nickel silvers, phosphor bronzes, and silicon bronzes combine good ductility and high strength with excellent corrosion resistance. The whole range of common brasses has specific applications and can be tailored to various heading operations.

The research and development hopper is full of interesting new ideas and projects at The American Brass Company. It could be that we're working on something which would help solve one of your problems. Even though we don't have the complete answer, perhaps we could both reach a solution faster by pooling our efforts. Call your American Brass representative and talk it over with him or write: Manager, Market Planning, The American Brass Company, Waterbury 20, Conn.

ANACONDA®

COPPER — BRASS — BRONZE
NICKEL SILVER MILL PRODUCTS

Made by
The American Brass Company

Purchasing People In The News

Roland P. Ostrand has been named purchasing agent for **Kinney Vacuum Division, New York Air Brake Company, Jamaica Plain, Mass.** He succeeds **Percival E. Bott** who has retired. Mr. Ostrand has been assistant purchasing agent for the firm for several years. He is a member of the New England Purchasing Agents Association.

Leonard R. Feldman has been promoted to supervisor of buyers at **Leeds & Northrup Company, Phila. Pa.** Mr. Feldman joined L&N as a buyer and later moved



L. R. Feldman

up to senior buyer. He formerly was a purchasing agent for Victoreen Instrument Company and for Schaevitz Engineering Company. He is a member of the Philadelphia Purchasing Agents Association.

The appointment of **John H. Snyder** as general purchasing agent of **American Car and Foundry division of ACF Industries, Incorporated, New York N. Y.**, has been announced. Mr. Snyder came to the ACF division in 1952 as assistant to the vice president of purchasing, and has been acting director of defense products for the past year. Previously he

was director of purchases in Bridgeport, Conn., for the Lycoming division of Avco and for six years held manufacturing and purchasing positions with General Electric. In his new position, he reports to the division vice

at the company's Fontana, Calif., works. Before joining Kaiser he had been with Douglas Aircraft



John H. Snyder

president of purchasing. He received his M.E. degree at Northwestern University and studied at the Northeastern University School of Law and at the Graduate School of the United States Naval Academy.

Motordyne Inc., Monrovia, Calif., has announced the appointment of **Dwight C. Haymond**, as purchasing agent. Mr. Haymond was formerly with Talley Corporation buying aircraft and missile components. Before that he was with the Yards and Docks Supply Office, Port Hueneme, Calif., as buyer supervisor for Army and Navy automotive and industrial spare parts requirements.

D. B. Kitchel has been appointed assistant general purchasing agent of **Kaiser Steel Corporation**. He will headquartered at the company's main office in **Oakland, Calif.** For the past nine years Mr. Kitchel has been purchasing agent



D. B. Kitchel

Corporation as senior buyer. He joined Kaiser in 1947. From the position of supervisor of office services, he entered the plant's purchasing department as buyer in 1948 and was raised to senior buyer in 1949. He became purchasing agent in 1951. Mr. Kitchel is a graduate of the University of California, where he majored in economics and business administration.

John H. McLachlin has been named general purchasing agent for the **Solid Rocket Plant of Aerojet — General Corporation's Sacramento** plants in Calif. Mr. McLachlin has served the past year as a special staff assistant to the Aerojet corporate director of materiel. Before joining the company he spent 17 years as a civilian employee of the Air Force in various procurement activities. Most recently, he administered

SEE PAGE 166 FOR MORE
PURCHASING PEOPLE IN
THE NEWS

For More Information about ad on following page
Write No. 199 on Place Mark Card—Page 32→
59

PRECISE!

If accuracy is an important part of your product, don't overlook Ex-Cell-O's experience in working to precise dimensions when you specify component parts and assemblies!

Ex-Cell-O precision aircraft and miscellaneous production parts represent special metalworking skills; the finest equipment for close-tolerance machining; extra care in testing, assembly and inspection; modern heat treating and chemical finishing methods; and 2.5 million square feet of facilities devoted to design, development and manufacturing of precision products.

Contact your local Ex-Cell-O Representative, or send your print or parts specifications directly to Ex-Cell-O for a prompt quotation.

59-61



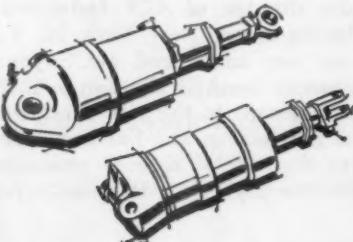
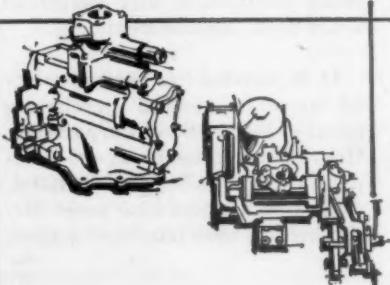
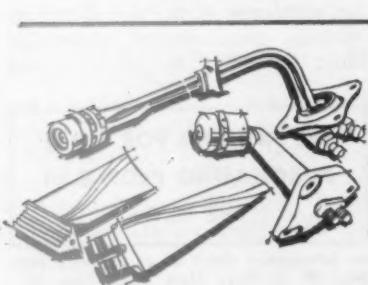
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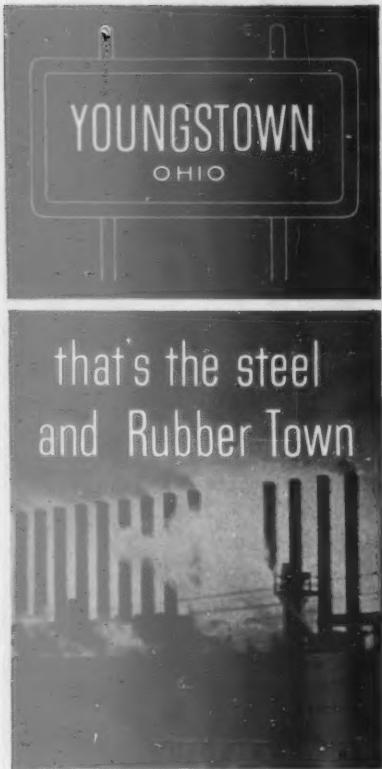
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For More Information Write No. 200
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FOB—"filosofy of buying"

IT PROBABLY is a typographical error, but with the great increase in educated illiterates that has occurred in recent years, we can't be sure. An announcement in the advertising column of the New York Times reads:

"A new 50 cents bi-monthly aimed at the college market will appear in September. It is called College."

ter: "Budget control offers no incentive for better value. It would put a premium on cheaper material. Cheap prices often lead to expensive purchases if quality is sacrificed. Maintenance is increased and life of item is shortened."

NEVER UNDERESTIMATE the staying power of a purchasing agent's opinions. In December 1956 we asked one of our readers in upstate New York to comment on purchasing budgets. He did, at some length, but somehow allowed his four-page handwritten letter to drift off so that it was not mailed. Three and a half years later the letter turned up—probably during one of those house-cleanings most of us are familiar with. Our faithful reader looked it over, decided the thoughts in it were still valid, figured (accurately) that our interest in him was not a passing fancy, and mailed it.

Sample comment from the let-

JOHN RUSKIN, the famous English social theorist, probably never knew any industrial purchasing agents during his lifetime (1819-1900), but his writings have often been quoted in defense of certain purchasing practices. Here's a bit of advice from Ruskin that has not been as widely quoted as others, but which is certainly applicable to modern purchasing:

"It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money—that is all. When you pay too little, you sometimes lose everything because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot—it can't be done. If you deal with the lowest bidder,



"Instead of making this million dollar check payable to our supplier, accounting made it payable to me by mistake . . ."

it is well to add something for the risk you run. And if you do that, you will have enough to pay for something better."

LIFE IN the suburbs tends to become fairly homogenized and after a while the man who's not much different from most of his neighbors may forget the diversity that was part of his youth. Your Old Filosofer was born in one of the many "nationality" neighborhoods that sprang up in New York City during the big immigration waves of the early 20th century. He lived in a German section (although his forebears came from a little green island somewhat west of Germany). On a recent trip through the old neighborhood he was wondering if any of the old-timers remained, or if they had been swallowed up over the years.

His musing ended abruptly when he caught sight of a hand-lettered sign attached to a telephone pole in front of a two-story house: "No Parking in the Triveway."

THE WORD is getting around. The current issue of *O Dirigente Industrial*, a Brazilian business magazine, carries an article on the purchasing agent and what he can do for a company. After giving a number of specific examples of purchasing's accomplishments, the author concludes:

"There are more ways to save money, as long as you have a smart purchasing man to find them. His specialized knowledge not only reduces your costs; it increases your profits. The modern purchasing agent doesn't merely perform the routine service of procuring materials; he increases the company's profit as effectively as the star salesman."

We can't claim credit for translating that from the Portuguese. We saw the original manuscript, written by charming Janice Hopkins, U. S. correspondent for *O Dirigente Industrial*, whom we were delighted to supply with information about purchasing methods and achievements here.

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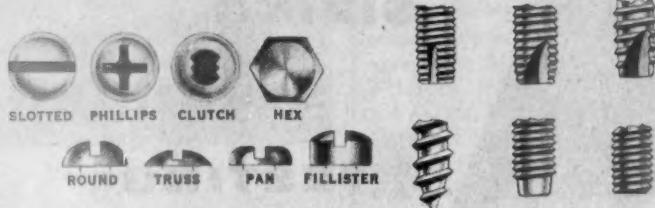
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In Purchasing . . .



THE SCOPE and complexity of modern purchasing are increasing rapidly. In this issue our editors have assembled a number of articles that deal with some of the problems and opportunities that face the P.A. in our changing times:

What a computer can do to hasten the development of materials management is described on page 70. The article tells how a medium-sized company, using a 650 computer, was able to combine purchasing and material control into one unit, in which buyers do their own material control job. The problems—both mechanical and human—of switching over to the automated operation are discussed frankly.

How purchasing helped a company switch from an old line and enter and hold a top position in a toughly competitive field is described on page 79. The situation called for vigorous policies and sound purchasing methods. The most significant of these are covered in the article.

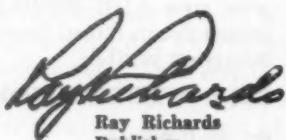
If storekeeping is one of your problems, you may find the answers you have been hunting for in the article that starts on page 84. There are guides to help you determine whether or not an item should be stocked and suggestions on how to set up an inventory catalog.



As the purchasing job gets more involved, it becomes more difficult to analyze, much less justify to management. On page 76, a purchasing agent tells how he has successfully combined the two operations by regular, complete reports to management.

Last month we lifted the lid on a rotten situation in industry—the bilking of hundreds of firms by shady operators posing as legitimate suppliers. We're happy to report now that we've been joined by other media in our efforts to curb industrial crime. Newspapers have picked up the story and one recent radio show featured a discussion of our disclosures by Purchasing Agent Rube Atkins of Resistoflex Corporation. We're grateful to the many purchasing agents and buyers whose assistance enabled us to provide this special service to industry.

We can't promise anything as sensational as "The Racket Boys" story in the next couple of months, but we do have a number of substantial articles on new developments in purchasing that you won't want to miss. Watch forthcoming issues for the latest on materials management, small company purchasing, cost of a purchase order, automation in purchasing.


Ray Richards
Publisher

AUGUST 15, 1960

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Purchasing Pointers

CLEARING HOUSE FOR DIRECTORIES—Some local associations are acting as clearing houses for industrial directories. P.A.'s who get new editions of directories turn in last year's editions to the association office where they may be picked up by other purchasing agents who may have slipped up on getting their own.

KEEP CALLERS COOL—Air-conditioning is great, but there are still many plants without it. If yours is one, you may be interested in what one midwestern P.A. did to keep his callers relatively cool during torrid summer days. He had a soft-drink machine installed in the lobby. Visitors were invited to step up to the receptionist and ask for a coin to drop in the machine. Costs were low, resulting goodwill was great.

TIPS FOR YOUR SALES FORCE—Salesmen for your company are calling on P.A.'s regularly. Why not give them a hand by regularly reporting on new sales techniques and approaches your suppliers use? If you're impressed with a new visual aid, an unusual sales pitch, etc., chances are most other P.A.'s will be. It's just another purchasing service that will help your company and make you look good.

SUPPLIERS' LABOR PROBLEMS—The labor situation at a supplier's plant may be as important to you as his shipping facilities, inventory, and machines. Make it a practice on plant visits to learn what you can about the company's labor contracts—what they cover, when they expire, etc. Not quite as simple, but still important: try to gauge the morale and attitudes of workers in the plant. This may tip you off to impending trouble.

LOSERS DESERVE A BREAK—It's surprising but true that many firms never notify unsuccessful bidders on a job. Notifying the loser costs little in time and effort, pays off in goodwill. It's a matter of simple courtesy and good business to let a vendor know he didn't make it this time. He'll be a little more interested in quoting the next time—and you may need him then.

DON'T STAND IN THE WAY—Do you have a bright young man more or less vegetating in your department because there's no spot for him to move up to at the moment? Don't stand in his way by doing nothing for him. Look around and see if you can land him a better job in another department. You may be able to bring him back into purchasing with another promotion later on, in which case you'll have a better trained man. And if you don't get him back, you'll still have a purchasing-oriented friend in another department.

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For More Information Write No. 205 on Place Mark Card—Page 32



The Lid Is Off

“WHY DON’T we cut this hypocrisy and name the people really responsible for the low state of business ethics? I mean top management . . . While you’re at it, you could also take a crack at another unethical practice in high places—executives setting up their own small companies and forcing their purchasing departments to buy from them.”—Editorial, “Who’s for Ethics?”—Purchasing Magazine, April 25, 1960

THE LID IS OFF an ugly mess at Chrysler. All the excuses and all the justifications in the world won’t make it anything different.

The lawyers said there was nothing illegal or improper about it; the business standards of the automobile industry are supposed to be fairly elastic; nobody has proved Chrysler had to pay the friendly suppliers exorbitant prices; the corporation is getting a \$450,000 refund. We’ve heard all these explanations, and we still think it’s rotten—rotten ethics and rotten business. We can’t help feeling that outright theft would have been preferable to the enormous cupidity shown in this case. Stealing at least takes a certain desperate courage.

Business can’t wash its hands and go back to its chores now that one black sheep has been exposed. The quotation at the beginning of this editorial is from the top purchasing officer of one of the country’s largest companies. It is the considered statement of a prominent purchasing man who has seen what’s going on in many high places, and who has heard of similar cases from purchasing executives in other companies. It must be taken as an indication that top management under-the-table deals are fairly widespread. Industry has already received a staggering blow from the Chrysler revelations. Can it afford to keep hundreds of similar scandals locked in the corporate coal bins?

Purchasing of course stands squarely in the middle of this whole sorry business. When a P.A. must buy only from a favored supplier one can only conclude that he is in on the deal, or is too impotent to act as anything more than a paper shuffler. Yet purchasing’s very existence—indeed the very existence of his company and that of the economic system we enjoy—is in jeopardy if this sophisticated form of the kickback is not rooted out of industrial buying. Avarice—either for money or for power—can destroy institutions as effectively as any outside enemy by first destroying competition.

It would be demanding heroic valor to suggest that purchasing agents denounce bosses with special interests in suppliers. They would end up with a moment of glory and no jobs. But all of us can make a start toward ending a dangerous situation at least by admitting it exists, by discussing it at our meetings, by helping to put the cold light of publicity on it. The lid has been lifted; let’s try to keep it off.

Paul V. Farrell

Materials Management in the Space Age

Fairchild Aircraft materials organization is tailored to today's technology. Each buyer is a materials manager and a computer handles the clerical drudgery.

By **Dean Ammer,**

Executive Editor

Like automation in the factory, automation in the office will cause many functional lines to disappear. Computers are programmed the same way materials should be managed: on an integrated basis... A production control computer doesn't pass a requisition to a purchasing department computed which, in turn, fills it out and passes it back to the production control computer. On the contrary, one computer programming is used for the entire materials management cycle from creation of the need for material to its final use in production. It's only reasonable that the people who make the decisions that guide the computer should be organized on the same basis.

"*Automation Puts Pressure on Supply*"
Purchasing, May 25, 1959, p. 69.

Fairchild Engine & Airplane Corporation of Hagerstown, Md. manages materials the modern way—with a 650 computer. As a

result, the functional lines between purchasing and material control have broken down and all but withered away. The two departments were linked organizationally nearly a year ago. Initially, they continued to operate as two separate groups under a common department head. But gradually individual jobs were changed to combine the two functions. On most items, buyers now do their own material control with the aid of data from the computer.

Fairchild is a medium-sized aircraft company (1959 purchases totaled about \$20 million) with big materials management problems. Products include an F-27 transport plane, major components of the Boeing B-52 bomber, a unique Umbaugh two-place plane, aluminum highway bridges, and an AN/SD 5 surveillance drone for the Army Signal Corps. None of these products is made in big production volume; Fairchild buyers are used to ordering

in quantities of 5, 10, 20, and 100. Each, with the possible exception of highway bridges, is complex with thousands of individual components. Altogether Fairchild has 21,000 active purchased parts and 8,600 inactive, surplus, or termination items. It processes about 3000 requisitions per month to keep stocks of these items maintained. When the changeover to data processing was made, there were 13,000 open orders outstanding.

Fairchild used to have a fairly conventional material control system. There was a separate record for each item. On it clerks posted all material transactions: receipts, issues, reservations for future demand, on order, and inventory balance. Now all of this—and a lot more—is done by the computer.

Formerly, there were 26 people in the material control department and 41 people in the procurement department. Now there are 38 people in a new combined



Tom Unger, material control supervisor, and W. K. Johnson, assistant purchasing agent, watch the flow of materials statistics from Fairchild's high-speed EDP printer.



Purchasing Agent C. F. Murray reviews shortages with buyers C. M. Fox, H. D. Dusenberry, and R. M. Clevenger. A computer may spot a shortage but it still takes a buyer to lick it.

purchasing and material control department. Although there have been contract cut-backs, a good part of the reduction is due to introduction of the computer to material control. On most items the job formerly done by material control has been taken over by the buyers who rely on data from the computer for routine calculations.

Purchasing Agent C. F. Murray and Materials Manager S. T. Mulroney are both quick to point out that although the computer takes over the jobs of many clerks, it wasn't rented for that purpose. "The computer should permit us to do a better job of

materials management," Murray declares.

With a computer and an integrated approach to materials management Fairchild expects:

(1) Fewer delays in the shop because of late deliveries, less expense for expediting. With the computer there will be fewer cases where material is ordered late and delivery must be rushed to meet schedule.

(2) Lower average inventories because of better control. The computer doesn't requisition short and long lead time items together. The short lead time items are ordered only when they're needed; this reduces average inventories.

Close control is possible because the computer reviews requirements and inventory status nine times per month. It also recomputes safety stocks periodically to take account of changes in usage.

(3) Lower average costs of material. Economic order quantities are programmed into the computer. Buy notices are held up until they're absolutely required in view of lead time, safety stock, and demand. As a result, fewer buys are made—and those that are, are in larger quantities.

(4) Better planning of cash flow. Reports of open orders and receivables permit the controller to project cash needs with precision.

Funds not needed can either be invested in short term securities or used to reduce loans.

(5) Improved cost control. Product costs can be tabulated from data on the computer. Changes in costs can be picked up accurately and rapidly.

The controller formerly got monthly product cost tabulations two weeks late; now he gets weekly reports with only five days delay. Major cost changes get special attention. Any price change greater than 10% for an order of more than \$25 is picked up by computer and reported separately for review and analysis.

(6) Faster purchasing. Formerly, contract extensions had to be added manually to each material control card before new requirements could be figured. This was a slow, tedious job. Now the change in end product requirements is put into the computer and all of the detail work is done automatically. Purchasing knows the effect of a contract change almost in a matter of hours. Similarly, when a contract is cut back, purchasing can move faster on cancellations.

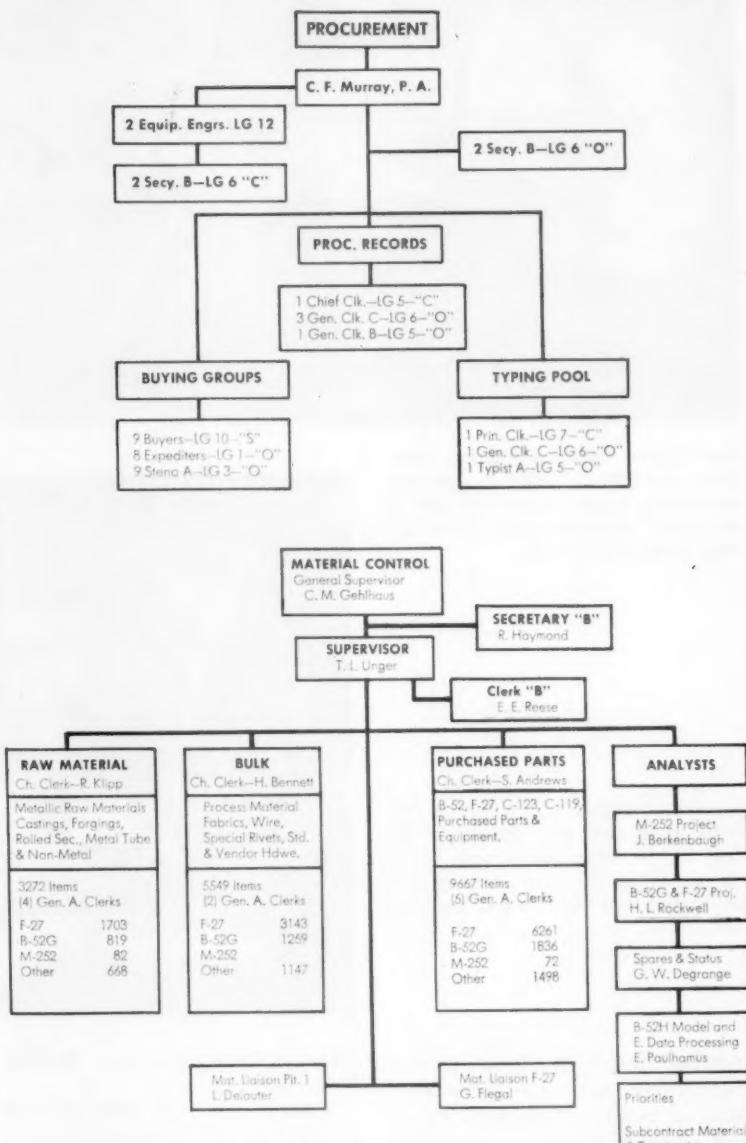
So Far, So Good

Although it's satisfied with the results it has obtained so far, Fairchild has no illusions about computers as a panacea for all its materials management problems. It had problems getting its present system to work well and it has a long way to go before it will come close to the ultimate in electronic data processing with all functions in the company making use of common data in a computer.

So far Fairchild is using the 650 only for payroll, work order analysis, special reports, and material control. Basic schedule data and parts lists for the material control program are stored in magnetic drums in the "memory" part of the computer. Every material control transaction—schedule changes, purchase orders, receipts, etc.—is recorded on key-punched cards. Information from the cards is then transferred to magnetic tape so it can be fed to the computer at a faster

The Purchasing and Material Control Organization

BEFORE . . .



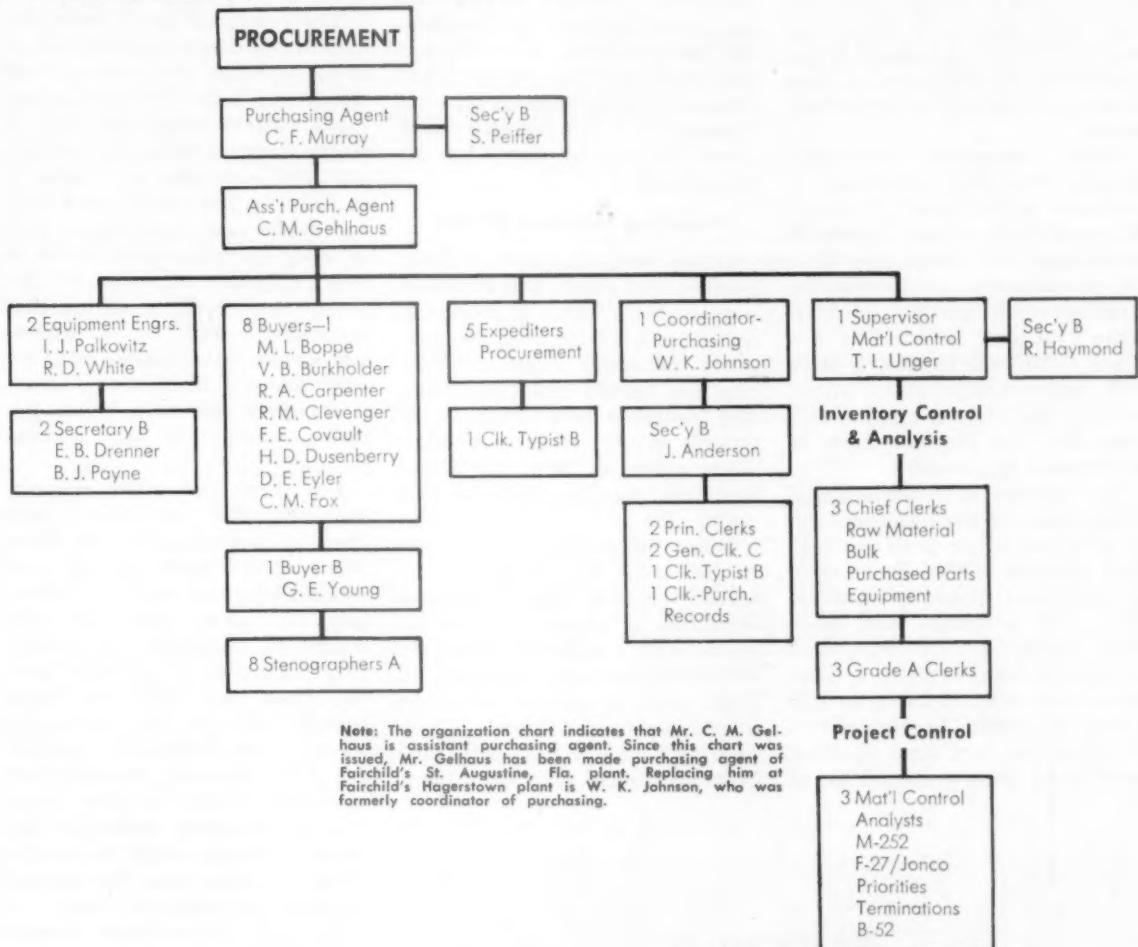
rate. Nine times per month, the transactions on the tape are fed into the computer.

When the magnetic tape is fed into the computer, the machine automatically starts performing the calculations that its program directs. Results of these calculations are printed out on individual reports for each item

controlled. (See p. 75.) Each report shows all transactions during the month as well as all appropriate balances. In addition to these Material Inventory Status Reports, the computer simultaneously prints out notices calling for specific action for purchasing.

When stocks drop to the point

... and AFTER the Computer



In October, 1959, there were 41 people in the purchasing department and 26 in the material control department. In February, 1960, when most routine material control transactions were being handled by the computer, there were but 11 people in material control which was made subordinate to purchasing. The purchasing department had 38 people. It was almost unaffected by the computer since buyers must now perform some jobs formerly handled by material control.

where they equal probable usage during the lead time plus the safety stock, the computer prints out a buy notice for the economic order quantity. Similarly, if stock on hand or on order exceeds foreseeable demand, it prints a cancellation notice. It also prints three different types of expediting notices:

(1) When there is variance between the planned delivery schedule and the supplier's actual schedule.

(2) When inventory drops to one-half the safety stock.

(3) When there is not enough stock for current operations.

Exceptions are also programmed into the machine. If an order is

not placed, the computer asks why when the follow-up time programmed into it expires. When engineering has a part on hold, the computer takes it into account.

Quantities calculated by the computer include pre-determined contingency factors. Lead times are always reasonably up-to-date

since the buyer must indicate a new lead time each time he places an order and this information is passed on to the computer. Buy notices aren't issued until the lead time requires it unless the part is coded "buy instant" in the computer; in this case, a buy notice is generated for immediate action.

Other exceptions are programmed into the computer. A computer is the equal of several thousand clerks when it comes to tabulating and comparing data. But no computer can do what the dumbest clerk can do: think. If some data must be handled in a slightly different fashion, a clerk will automatically make allowances without being told. With a computer, the problem must be anticipated in advance.

For example, with conventional programming the computer will not issue a buy notice until the lead time requires it. This is desirable in most cases, of course—but not always. If a certain item is in short supply, a buyer may wish to order as soon as there is a requirement—even if this is months before he would be required to do so by the lead time. A clerk could work from a special list of

all such items. A computer can only follow the instructions in its program. It can make no special allowances unless they are anticipated. Fairchild licked this particular problem by programming the computer to handle certain items as "buy instant." The computer is programmed so that it generates a buy notice for such items as soon as there are requirements.

Handling Minimum Orders

Other problems haven't been hurdled that easily. One that took a great deal of time to solve was minimum buys. Suppose the computer calculates that 12 cotter pins are needed and generates a buy notice to that effect. If the buyer's vendor requires a minimum order of \$5.00, the actual purchase quantity might be 1000 cotter pins.

When the purchase order data is fed into the computer, the trouble begins. The computer compares a requirement of 12 pieces with a potential inventory of 1000 pieces and proceeds to take steps to prevent excessive inventories from accumulating by printing out a purchase order cancellation notice for 988 pieces.

This wasted paperwork can be corrected by another special addition to the program that tells the computer to handle minimum order parts in a special way.

The computer won't solve the problem of usage variation either. It can compute procurement lead times and safety by almost any mathematical technique. But if usage varies erratically, eventually the computer will make a mistake: either safety stock will be inadequate and there will actually be a stockout before a new shipment arrives or the safety stock will be so big that inventories will be excessive. Clerks also have trouble with erratic demand fluctuations, sometimes, they can do a better job of controlling them than a computer.

For these and other reasons, Fairchild still has about 1400 items on manual control. On these items clerks keep records and relate past usage to future sales. Customer choice items are also controlled manually; it simply isn't worthwhile to put them into the system since the item is being bought only for one customer's special order. Fairchild's controller, John Hammer, believes that there will always be many items that are manually controlled because it simply won't be worthwhile to give them the special programming they require.

Fairchild did not have an easy time getting automatic control on the items presently in the system. To do the job, data had to be transferred from more than 29,000 cards and over 13,000 open purchase orders. Altogether it took about 5000 man-hours of hard work to get the system installed. Fortunately, the company was able to do it during normal working hours; it only had to pay for about 1800 hours of overtime.

Getting a workable EDP system is a long, slow process even if a company has thousands of employees available to assist in the transition period. Fairchild actually started the program back in May, 1955 when it began recording inventory transactions on punched cards which were tabulated and run off on a weekly

FAIRCHILD

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This is to certify that

is hereby commended for exceptional merit in performance of a complex and demanding task. During the period from July 25th through September 8th, 1959, this employee assisted in establishment of the Inventory Management Program utilizing Electronic Data Processing.

This certificate attests to an outstanding display of knowledge, accuracy, diligence, and a high sense of individual responsibility which contributed to a very successful accomplishment.

Date Issued _____

Materials Manager

Materials Supervisor

The changeover to electronic data processing is a difficult task. Errors can cripple the system. This certificate was given to Fairchild employees who worked on the changeover in recognition of their cooperation and performance.

PURCHASING DEPARTMENT		Part No. _____
REQUEST FOR QUALITY REPORT		Description: _____
Notification of: new part, new vendor, new material, part change, cost reduction.		
Estimated annual savings: _____		
Quantity _____ Location of sample: _____		PO No. _____ Date decision requested: _____
Description of sample: _____		Vendor _____
		Product _____
To:	Comments: _____ _____	
To:	Comments: _____ _____	
Purchasing Dept.		

All materials transactions are noted on punched cards. Nine times a month the computer digests all transactions, makes the necessary calculations, and prints material status reports showing the effect of each transaction.

summary. The system was improved in 1958 when a specific material inventory account report was added. This report listed receipts, issues, etc. and sub-totaled data by job.

In February, 1959 the company formed its first planning group for electronic data processing. Members included representatives from material control, requirements planning, purchasing, and accounting. Each was teamed up with a programmer; one man supplied the basic job know-how, the other the ability to translate it into computer "language".

Live Up to the Program

The group set a detailed schedule for the program and then proceeded to live up to it. Each phase of the program was carefully reviewed and analyzed by each member of the group. Although the accounting manager was the only department head who was a member, the group's

decisions were binding on the departments represented in the planning group.

Roughest part of the conversion job was transferring the records to the machine. Serious errors at this stage could conceivably have threatened the plant's production efficiency for many months. The job was done during a three-week vacation shutdown. Data was successfully transferred from both stock record cards and open purchase orders.

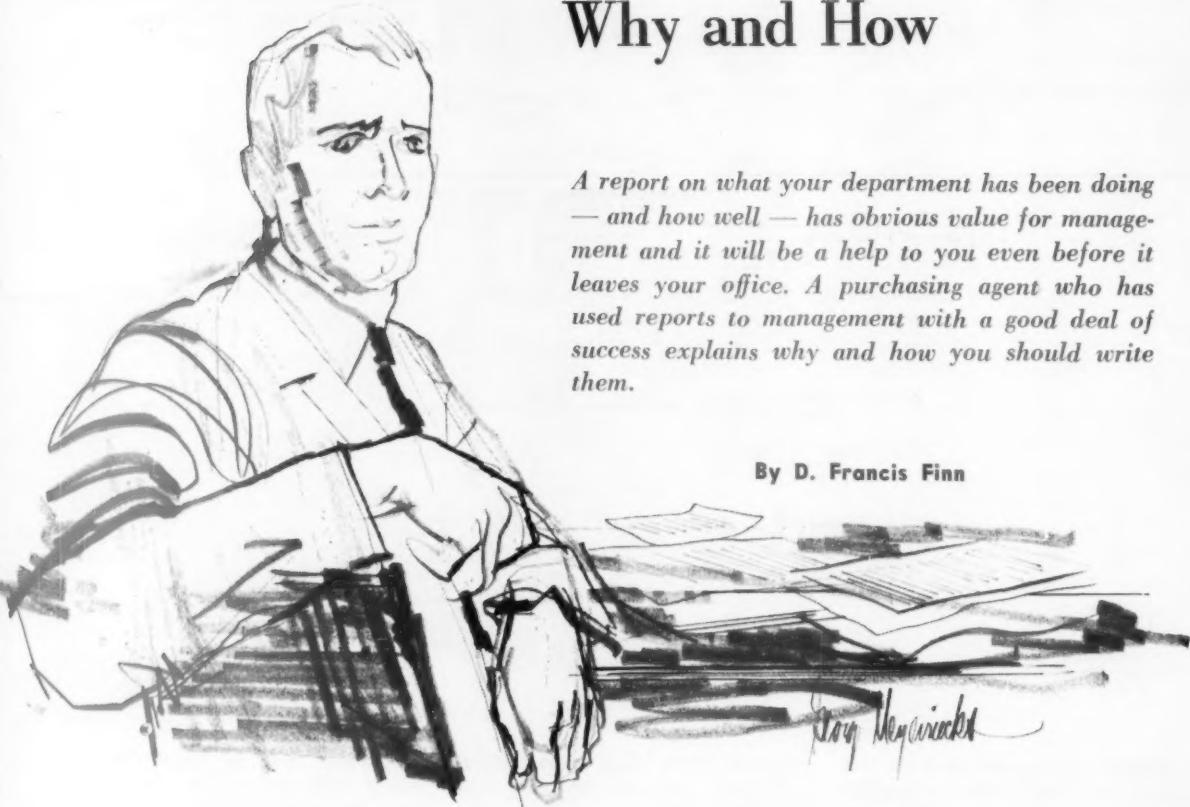
Needless to say, while the small committee could devise procedures and programs, it couldn't handle the physical changeover of data. Dozens of skilled purchasing, material control and accounting personnel were needed. It was particularly essential to get the cooperation of the material control personnel who were going to be displaced by the computer.

How do you get someone to

cooperate in a program that is going to eliminate his job? Even if there were no job insecurity, the changeover would be a problem. People tend to resist change. They take time to learn and while they're learning the whole operation is slowed down.

Fairchild took particular pains to prevent serious personnel problems from disrupting the program. Employees were carefully trained in changeover procedures and the general principles of computer operation. Special steps were taken to obtain the cooperation of people who were going to be displaced by the computer. If they cooperated—and practically all of them did—and did a good job working on the changeover, a special note was made on their personnel record. In addition, each got a special certificate certifying that they were commended "for exceptional merit in performance of a complex and demanding task." ▶ END

Reporting to Management: Why and How



A report on what your department has been doing — and how well — has obvious value for management and it will be a help to you even before it leaves your office. A purchasing agent who has used reports to management with a good deal of success explains why and how you should write them.

By D. Francis Finn

WHEN YOU make a report to management what you really do is analyze yourself and your work in terms of what you are doing and what you should be doing. Through organizing and preparing a report to management you can do the following for yourself:

Develop and establish goals. How many of us have set goals for the coming year? Are we just going to continue in the same routine fashion or are there certain things we should be accomplishing? Let's list just a few of them as goals, such as revising our stores procedure, reviewing the purchase of a major commodity, rewriting our procedure manual, or locating new sources of supply. And then at the end of the year, let's look at last year's report and ask ourselves—have we accomplished any of our goals?

Develop methods of evaluating purchasing performance. If we don't keep some statistical information on our activity, how do we know if the work load is heavier this year than last? What

kind of information is significant, besides statistics? What about savings reports, vendor evaluations, commodity studies, surveys, value analysis? Is our staff large enough? On what basis should we recommend additional staff? By using statistics, most P.A.'s find they can manage stores operations much more efficiently. How can we apply statistics to the rest of the purchasing operation?

Evaluate your own performance. Are you personally, doing a better job this year than you did last? How can you prove this even to yourself? It will help to review your accomplishments or preferably record them as they occur, such as developing new procedures, finding new sources, or obtaining better prices. In what areas of activity are you doing a poor job and how could you improve? Have you really done anything new and different during the last year or are you just doing things in the same old way?

Mr. Finn is purchasing agent for Purdue University, Lafayette, Ind. This is an abstract of a paper he presented at the National Association of Educational Buyers convention.

Evaluate the performance of your department. How much does each buyer spend? How many requisitions does he handle? How many telephone calls, salesmen's calls, requests for quotation does he handle? How many change orders does he have? By having each buyer submit activity and savings reports you can obtain further information on their accomplishments.

Encourage your staff to use a more analytical and alert approach. Staffs should be included in report preparation by providing them with means to report in writing to us. By requiring regular reports from them on their activity and savings they will begin to develop a more analytical and imaginative approach. They will become interested in analyzing what they are doing in getting out of the rut they may be in and in truly studying the areas for which they are responsible in order to do a better job. They will be open to developing a more positive attitude. It alerts them to the contributions they are making or might make or are not making to the organization.

Pinpoint your problems within and without your department. You have problems within the department—crowded conditions, insufficient staff, poor equipment, poor controls. You have other departments that are uncooperative, departments that pay invoices without material being received or are problems in other ways. These things we know but do we know how many such problems we have? Do we know what we would do about it if we were given complete freedom to run the organization in our own manner.

The other main purpose of preparing reports is to inform management of the purchasing activity. By being better informed management can help us do our job more effectively. Wouldn't we all like to have our subordinates give us well prepared, carefully organized, thoughtfully presented and documented reports, pinpointing their activity, problems, accomplishments, failures, and recommendations? Management knows too little about the contribution of the purchasing function to the success of the organization. Often it thinks

only that purchasing obtains bids, places orders and keeps track of outstanding obligations, without fully understanding our interest and contribution in terms of material management, quality control, value analysis, standardization, quantity buying, vendor relations, priorities, surplus property and the rest. We should do a little bragging so that all top management will develop a true appreciation of the contribution we make.

An annual report should include: statistics, analysis of statistics, market conditions, review of personnel, accomplishments, savings, problems, projected goals, recommendations.

Statistics should include at least the following:

- (1) Dollar volume.
- (2) Number of purchase orders.
- (3) Cost of operation.
- (4) Cost of operations as percentage of dollar volume.
- (5) Number of confirmation orders.
- (6) Number of invoice errors.
- (7) Discounts taken and lost.
- (8) Amount of surplus property acquired.
- (9) Summary of savings.
- (10) Stores Inventory
 - a. purchases
 - b. issues
 - c. number of stores requisitions
 - d. cost of operation
 - e. inventory total and by category
 - f. percentage cost to issues
 - g. turnover ratio
 - h. percentage of slow moving items.

The statistics can be kept and summarized by day, by week, by month, and by year. They can be prepared as easily on a daily, weekly and/or monthly basis as on an annual basis, they will give you a running picture of your activity and aid you in your own management even before you pass them on to higher management. Be careful of figures. The cost per purchase order should be included with caution. My boss used this figure and it showed our costs rising, making us appear inefficient. Actually we were doing a better job by reducing the number of p.o.'s.

(Turn Page)

TABLE I PURCHASE ORDERS WRITTEN					
	1948-49	1953-54	1955-56	1956-57	1957-58
Purchase Orders Written.....			28,995	27,457	26,992
Food Purchase Orders Written.....			6,586	7,247	7,792
Total.....	31,475	30,883	35,581	34,704	34,784
					37,631

TABLE II COMPARATIVE COSTS OF OPERATING THE PURCHASING DEPARTMENT					
Value of Purchase Orders.....	\$3,328,961.16*	\$6,989,221.05*	\$7,809,484.26**	\$7,355,222.35**	\$10,551,978.67**
Value of No Orders.....	-----	-----	-----	-----	2,387,758.22
Cost of Operating Department.....	84,657.48	104,791.71	105,466.77	101,465.49	109,416.17
Average Cost of Purchase Orders Written....	2.69	3.39	3.64	3.69	4.09
Percentage Based on Value of Purchases....	2.54%	1.49%	1.35%	1.38%	1.036%
Cash Discounts Taken.....	-----	11,431.10	20,129.00	21,972.28	25,932.77
Cash Discounts Lost.....	-----	544.79	414.67	452.53	472.97

*This year does not include the value of orders for new building construction but includes the value of food orders.
**This year does not include No Orders, value of orders for new building construction and food.

By carrying comparative statistics back ten years, this annual report, issued by Purdue's purchasing department, shows long-range trends, often reveals unusual changes that may have been overlooked.

Analysis of statistics. I submit comparative statistics for the last five years then skip back and show the situation 10 years ago. One year when I realized from the report how fast we had been growing, I asked for another man and obtained one without much argument after presenting the documented figures.

I try to summarize, compare, and analyze the statistics, point out some of the significant changes, both favorable and unfavorable. By pointing up trends I can check my own thinking and the way we are operating and sometimes prepare the way for future changes.

Market Conditions. Include general information as to price trends, predictions on purchase price for the coming year and specific information on important commodities. Comparative prices may be shown on major commodities. Economic forecasts (by experts) may well be included. Various economic or price indexes may be referred to.

Review of personnel. Review the quality of personnel and level of performance. Weaknesses, coming retirements, etc. can be pointed out. Detailed analysis can be done once every several years, whereas annually particularly excellent performance or overloads can be pointed out.

Accomplishments. A review can be given of what has been accomplished in improving the operations, revising them, etc. For example, we now try to contact each new department head and spend an hour with him reviewing our service, needs and procedures. New construction projects underway or completed can be reviewed and summarized. Commodity studies and testing programs can be included here or as a separate category.

Savings. If savings reports have not been submitted monthly some of the outstanding ones can be reviewed for the benefit of management. Two ways to handle savings reports in an annual report are by description of each project or by dollar summary with sample projects given in detail.

Problems. I pointed out that by preparing a report you will pinpoint problems for your own benefit. These should be spelled out in an annual report for the information of management.

Projected Goals. As I pointed out earlier we need projected goals for our own benefit. For management they demonstrate that we are thinking ahead and planning. It is interesting how well management remembers the goals I projected last year, and how anxious I become to push my staff and myself to accomplish them before this year is out. This is stimulating and profitable to all.

Recommendations. With a carefully prepared report in front of him anyone is ready to consider with a receptive mind any recommendations for

SAVINGS REPORT	
Item (Description)	Date
1. Quantity Purchased	
2. Previous Price	
Current Price	
3. Is Repetitive Item, Savings Per One Year	
4. By:	
Change Quality	
Competitive Bidding	
Change Vendor	
Change Specifications	
Change Quantity	
Substitution	
5. Details	
Buyer _____	

These forms, to be filled in by buyers, help P.A. Finn compile quarterly or monthly reports to management. Savings reports are to be handwritten as soon as savings are made.

ACTIVITY REPORT	
Must be submitted at least once per month by fifth of following month.	
BUYER _____	DATE _____
1. Market Conditions (prices, trends and reported increases).	
2. New Activities.	
3. New Products from Sales Demonstrations or Purchases.	
4. New Ideas Received.	
5. Special Projects (Progress Report).	
6. Special Problems (internal-external).	
7. Surveys and Cost Analysis.	
8. Other Comments:	
By _____	

changes in procedure, policy or operations. Pointing out the reasons for the recommendation can lead to ready acceptance by management.

Annual reports are too infrequent to give anything but the highlights of an operation. I am now trying to develop at the minimum quarterly and preferably monthly reports. To do this I have prepared two forms which I distribute to all my staff and myself to cover (1) savings and (2) activity.

►END

Top Place for Purchasing Aids Company Success

As front-line profit-makers for the company, buyers control production inventory, run their own cost reduction program, and keep tight reins on quality.

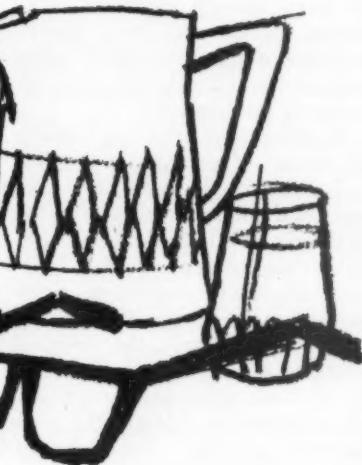
PROFIT AND GROWTH are our guideposts at Beacon Manufacturing Company. We're an old company with a new line of products—small electric appliances that have sold so well that we have been expanding rapidly in the past five years. One of the big reasons for our success: a purchasing department that has been so successful that we have been able to cut prices of some of our products by more than half.

Six years ago purchasing was a part-time function for one man. Now it is a twenty-man department, recognized by top management as a profit making part of the business. The director of purchases reports directly to the com-

pany president; he is on the executive board, and is chairman of the company-wide product improvement committee.

Our three buying groups are organized on a product basis. A typical group consists of a purchasing agent, one or two buyers, and an assistant. Because purchasing is responsible for all production materials, from determining the quantity through inventory control, we stress two points: thorough training of each purchasing agent, buyer, and assistant; tight control over the price and quality of purchased material and parts.

We try to train our people continually. Not just because we op-



erate the purchasing department on the premise it will grow, but because a constant effort to keep prices low and quality high makes the buyer an important person.

Buyers are the front-line profit makers for the company. As such they must be familiar with the materials they buy, how they are used in the plant, and manufacturing methods and costs. The buyer must thoroughly understand the use, function and applications of the materials and parts he buys.

(Turn Page)

This article was prepared by the purchasing executive of a rising New England manufacturer. Because of company policy, neither the name of the writer nor his company can be identified. The article, however, describes actual situations. Only the names are fictitious.

Where to Look for Lower Costs, Better Values

This convenient outline, compiled by the purchasing staff at Beacon Manufacturing Company, tells where to look, what to do, when analyzing values.

- (1) Prepare a complete cost list of labor, material and annual requirements for all parts or apparatus. List merchandise loss and maintenance figures where amount appears significant.
- (2) Determine where cost reduction is indicated:
 - a. Labor
 - b. Material
 - c. Merchandise Loss

- d. Maintenance of Tools and Machines
- (3) Investigate the following cost reduction possibilities:
 - I. Design
 - (1) Eliminate parts or finishes:
 - a. Doubtful function or duplication of function exists:
 - (1) Reduce number of screws;
 - (2) Reduce number of rivets;
 - (3) Eliminate washers or insulators;
 - (4) Eliminate leads by rewiring;
 - (5) Eliminate components;
 - (6) Eliminate brackets;
 - (7) Finish not required.
 - (2) Combine functions:
 - a. Incorporate functional forms in one part to replace a separate part or second operation;
 - b. Change design of part to perform function of several parts.
 - (3) Change physical shape of parts:
 - a. Reduce size;
 - b. Reduce thickness;
 - c. Reduce scrap or skeleton;
 - d. Reduce operations by changing shape.
 - (4) Liberalize tolerances and/or design sign requirements consistent with functions:

(Please turn to page 80)

He must know how they are manufactured, packaged, and shipped. To keep himself informed, each buyer visits supplier's plants, analyzes costs, interviews salesmen, and reads technical and professional publications.

At Beacon purchasing handles all phases of production buying. It determines the quantity to be bought, the date required, and the inventory level. This is in addition to the usual purchasing functions of vendor selection, price negotiation, and expediting.

To make sure the needed amounts of parts and materials are on hand when they are needed, and are of usable quality, purchasing provides for constant checks and reviews. If anything does go wrong, the director of purchases is immediately notified. This approach enables a number of people to jump in and meet the emergency and backs up the buyer with greater experience and authority at the time he needs it most.

Quantity & Quality Control

To maintain control over quantity and quality purchasing relies especially on inventory reports, expediting records, and quality reports.

Buyers determine inventory levels and order quantities from production schedules and engineering change notices. Each purchasing group receives a monthly production schedule, based on sale forecasts, which shows how many units of each product will be built during the following six months. From this schedule, purchasing

Each buying group keeps complete inventory records of the items it purchases. In addition to usual stocking and buying information, inventory page shows in which product the part or material is used.

Weekly inventory reports are made on all critical and high cost items. A close check is made on these important parts to prevent any chance of a production delay. "Good Til" date is day current inventory will run out.

calculates order quantities.

This eliminates a requisition. The first time a part or material is purchased the buyer hand-writes instructions for the typist. Afterwards, the second copy of the purchase order is used as a re-order form. Changes from the previous order are usually limited to the vendor's name, quantity, or price and are easily made. The

basic description, part numbers, and other information on the purchase order remain the same.

When engineering makes a change on existing products, or sets up a new one, it issues a change notice to purchasing. The buyer promptly reviews the items affected and adds or deletes the models to his inventory records. When a part is required that is

(Continued from page 79)

- a. Eliminate unnecessary requirements;
 - b. Change from engineering to shop or unlimited requirement.

(5) Substitute materials or finishes:

 - a. Aluminum for brass and vice versa;
 - b. Plated steel for other steels and vice versa;
 - c. Machinable steels for less machinable steels;
 - d. Brass for nickel silver;
 - e. Lower grade critical materials for higher grades;
 - f. Powdered metals for machined metals;
 - g. Plastics for metal and vice versa;
 - h. Die castings for machined parts and vice versa;
 - i. Metallized materials for fabrics;
 - j. Zinc for nickel and vice versa;
 - k. Enamel for plating and vice versa;

(6) Use commercial parts or apparatus;

 - a. Substitute standard commercial parts or apparatus for own design and vice versa;

(7) Substitute high production, low cost parts for low production, high cost parts:

 - a. Screws, rivets, eyelets, terminals, etc.

(8) Redesign to utilize improved fabrication processes:

 - a. Impact extrusions;

not common to other models, he sets up a new inventory page and computes stock levels. At the same time he sets in motion the buying routine for the new part by getting quotations.

Changes affecting existing parts and materials may have wide repercussions in purchasing. The buyer may have to increase or decrease the quantities on outstanding orders, reschedule delivery of open orders, change inventory levels, cancel open orders, or dispose of obsolete parts.

As the purchasing department is totally responsible when the shop runs out of a part or material it makes every effort to know material status at all times. Assistants post usage figures from shop job tickets and inventory disbursements. Balances are frequently confirmed by physical inventory reports. Stock replacements are posted from receiving reports.

Using weekly inventory reports, buyers maintain close control on high value and critical items. In addition to a description of the part and the actual stock on hand, the report shows a "good till"

date, the day current inventory is expected to run out. Whether the material is on order, and the status of such orders, is also noted. In this way, materials which could cause serious production delays are under constant observation.

Let the Vendor Do It

Purchasing makes a constant effort to reduce inventory levels; by re-evaluating lead times, for instance, or by asking vendors to stock materials themselves. If lead time permits, buyers hold orders for a few weeks or even months. This protects us against schedule changes, possible cancellations, obsolescence, vendor change, etc.

An expediting record that is reviewed daily is another means of keeping track of purchased parts and materials. Beacon's expediting form lists part number and description, order number, vendor, quantity on order, balance, and delivery schedule. The "good till" date shows up here too. It gives the expeditor a clear idea just how far he is from trouble; how much time he can give a vendor who has a genuine problem;

and, in case of non-delivery, how soon he should alert the buyer to find another source.

Getting parts on the production floor on time is pointless if they don't pass quality control. To protect the company's $\frac{1}{2}\%$ AQL, purchasing makes sure that any changes in the purchase pattern that may affect quality are known to all those concerned. The purchasing department form, "Request for Quality Report," is essentially a notification of change, whether of source, material, design, etc. It goes to the engineering, manufacturing, and quality control departments.

It is a flexible form. Purchasing can circulate it in a few hours if necessary in order to get the opinions of others before making a change. Or it may be used to request tests or pilot runs of a purchased material, such as life tests, which take months to complete.

Often a small change in material, if not properly recognized, can cause havoc in production. This report, which circulates every time there is any change at all in a purchased item, keeps

Purchasing assistants review expediting records daily. Each man knows exact status of items he handles.

- | | | |
|--|---|--|
| <p>b. Epoxy resin castings for plastic parts;</p> <p>c. Printed circuits for complex wire and soldered circuits;</p> <p>d. Adhesive fastenings;</p> <p>e. Ultra-sonic or cold welding;</p> <p>f. Machine assembly.</p> | <p>c. Special attachments for screw machines and punch presses;</p> <p>d. Conveyorize operations;</p> <p>e. Special multiple operation machines;</p> <p>f. Multiple parts tool;</p> <p>g. Produce parts of more than one design in same tool.</p> | <p>d. Higher production machines:</p> <ol style="list-style-type: none"> (1) Screw machines with higher spindle speeds; (2) Higher RPM presses; <p>e. Automatic feeds for second operations;</p> <p>f. Separate scrap from parts at operation;</p> <p>g. Clean automatically at opera-</p> |
|--|---|--|

II Fabrication

- (1) Eliminate unnecessary operations:
 - a. Deburring, redrilling, polishing, reaming, adjusting, detailing, etc.
 - (2) Combine operations:
 - a. Progressive punch and dies;
 - b. Dial feed machines;

- c. Special attachments for screw machines and punch presses;
 - d. Conveyorize operations;
 - e. Special multiple operation machines;
 - f. Multiple parts tool;
 - g. Produce parts of more than one design in same tool.
 - d. Higher production machines:
 - (1) Screw machines with higher spindle speeds;
 - (2) Higher RPM presses;
 - e. Automatic feeds for second operations;
 - f. Separate scrap from parts at operation;
 - g. Clean automatically at operation;

III Miscellaneous

- (1) Reduce Expense Supplies:
a. Substitute tool of longer life
to reduce unit cost;
(Please turn to page 82)

people in the shop advised. If everyone knows of a change, any trouble it causes can quickly be traced to the source and cleaned up.

But purchasing doesn't report on changes only after the fact. When selecting new vendors or establishing sources for a new part we ask for quality checks on samples, on test runs, and on the first two or three regular shipments.

Potential suppliers receive full quality specifications with the inquiry. We specify commercial quality wherever possible and also inform vendors what testing equipment and sampling techniques will be used.

After purchasing has negotiated

satisfactory prices and terms, the vendor supplies a sample which receives a full quality check. This is followed by a sample production run, with partial releases made as each passes quality control. Even after regular shipments have started, purchasing prepares a quality report request form for each delivery until we are satisfied the vendor is performing satisfactorily. This may take as long as six months.

In this way cost reduction and quality are tied in together. Purchasing cannot yield to any temptation to consider price alone. And other departments, as well as management, are kept informed of the quality levels and costs of purchased parts and materials.

Cost reduction is not just a talking point at Beacon. It is the company's life blood. We must continue to reduce the cost of our product in order to compete. For this reason, we do not accept price increases. We believe that there is no bottom in any price. Someone can always come up with something better; not necessarily with a direct price cut, but with value suggestions, or a change in buying patterns that can save us money.

No buyer can accept a price increase without approval by the purchasing director or without notifying the company president. In this way no higher prices are paid unless management knows exactly how they will affect the

N ^o 257		PURCHASING DEPARTMENT REQUEST FOR QUALITY REPORT	
Notification of: new part, new vendor, new material, part change, cost reduction.			
Estimated annual savings:		Part No. _____	
Quantity	Location of sample:	Description:	Date _____
Description of sample:		PO No. _____	Date decision requested: _____
To:	Comments:	Vendor:	Product:
To:	Comments:	Purchasing Dept.	

When there is any change in a part, material, vendor, or price, purchasing sends request for quality report to other departments to get their opinion before any change is made final.

- (Continued from page 81)
- b. Utilize less expensive tool;
 - c. Provide for tool repair or reclamation;
 - d. Specify procedures for use of tools and other expense supplies:
 - (1) Dressing grinding wheels, correct mixtures and amount of cutting oils and tool lubricating oils, etc.;
 - e. Reclaim expense supplies:
 - (1) Oils, diamond dust, gloves, wiping cloths, etc.
 - (2) Reduce Plant Service Costs:

- a. steam; b. Compressed air;
 - (1) Intermittent air for part ejection and automatic air shut-off when machine is stopped;
 - c. Water (fresh and/or recirculated);
 - (1) Extend use of recirculating water;
 - d. Electrical power;
 - (1) Unnecessary illumination, stopping equipment when not in use;
 - e. Industrial gas.
 - (3) Materials Handling:
- a. Conveyorizing;
 - (1) Transfer conveyors between machine and/or operations, etc.
- b. Bulk handling;
 - (1) Tank storage and pneumatic transfer of materials, etc.
- c. Improved material flow.
- (4) Packaging:
 - a. Cheaper packing materials;
 - b. Automatic packaging;
 - c. Automatic stamping/labeling;
 - d. Bulk packaging or palletizing.
- (5) Inspection:

cost of the end product.

Cost reduction studies are going on all the time, but when a vendor announces a higher price, we immediately begin an intensive study of the material or part involved. When faced with a price increase, we discuss it with the vendor. We ask him for suggestions to keep the price down, or how to make it even lower.

If all else fails, purchasing will hunt for new vendors. To be absolutely sure we get the best supplier and the best price, we send out many inquiries. We don't believe in getting just three bids. To cover the market we'll often send out 70 or 80 inquiries for one item. On one die casting, we requested over 200 quotations.

Buyers look for the supplier with special equipment or with special knowledge to do the best job. They go into the field to study vendor capabilities. They must be absolutely sure that a vendor can produce the right quality and has the capacity to supply Beacon's requirements comfortably. The right quality is a must.

The Personal Touch

Beacon has no inquiry form. All inquiries, regardless of the quantity, are individually typed letters. Unsuccessful bidders are notified the same way. This personal approach pays off. It keeps vendors interested. It insures replies.

It may seem contradictory that although we try to automate our work as much as possible, reduce the number of forms, simplify procedures, we still do all this

PURCHASED PART CHANGE NOTIFICATION

Buyers report all price changes on this form which also has space for other relevant data. Original goes to company president, copies to director of purchasing and accounting department.

extra work when making inquiries. But the negotiation of prices is the most important function of our department. Here we want to be more personal. Here we gladly spend a dollar to save a hundred.

Although purchasing has been successful in persuading vendors to help lower costs, it doesn't depend upon them alone. Our own cost reduction committee is made up of three group purchasing agents and the clerical supervisor. It sets up specific projects and presents cost reduction ideas to the department as a whole. In

regular meetings it tries to stimulate cost reduction thinking among all members of the department.

In a three page outline of cost reduction methods, the committee lists all possible approaches: in design (function, shape, material, tolerances); in fabrication (machine operations, combining, substitution); in supply expenses (tools, power, packaging); in service costs (materials handling, inspection, maintenance); and in procedures and techniques (office system, inventory control, purchasing methods). ► END

- a. Reduce inspection by use of control charts;
 - b. Review sampling plans and process averages with view to reducing inspection effort;
 - c. Combine operations in one gage to reduce inspection effort;
 - d. Use indicator type gage for better control of the process;
 - e. Reduce walking time of inspectors.

(6) Tool, machine and plant design:

 - a. Specify simplest mechanism to perform job.
 - b. Design for ease of maintenance.

(7) Maintenance (tools and machines)

 - a. Specify preventive maintenance where indicated:
 - (1) Periodic cleaning of conveyors;
 - (2) Specify length of run for tools before tool sharpening and/or repair when indicated;
 - (3) Use of automatic lubrication facilities or devices for stock and/or machines;
 - c. Check facilities for adequate capacity;

(8) Change design of tools and/or machines to remove maintenance trouble spots.

(8) Look for cost reductions through:

 - a. lower office costs;
 - b. Better inventory controls;
 - c. Improved traffic operations;
 - d. Improved methods;
 - e. Standardization;
 - f. Improved quality of purchased parts;
 - g. Make or buy;
 - h. Improved purchasing techniques.

How to Solve Your Storekeeping Problems

By Fred C. Wood

WE MUST recognize that a stores operation is in direct competition with the local jobber or even retailer. Hence it must be operated efficiently both as to speed and cost, or else we may find that we are tying up space and money in doing something that someone else may be able to do better.

The first step, of course, is to decide that the item is a desirable one to store. This decision should not be made lightly. If it is a borderline decision, don't store it. Some of the considerations to be weighed are these:

1) If you can get 24-hour local delivery and the premium paid doesn't exceed 10%, you will be better off to pay the 10%.

2) If the minimum quantity you can economically purchase will last more than 3 months, take another look.

3) If the item is a new one on the market, don't try to guess what the demand will be. Pay a premium price for a while until you know.

4) If the item is subject to deterioration or hidden damage, or is easily stolen, perhaps it would be a better gamble for someone else to take.

5) Once you place an item in

stock, it is difficult to stop storing it. Users will expect it to be there, and it may be a long time before you again evaluate the wisdom of your decision to put it there.

How to Store Goods

How the goods are stored will depend on the nature of the item. If it is large and stored in quantity, it may be desirable to have small quantities in a forward stock to facilitate picking, and have reserve stock in a separate

area.

Forward or picking stocks should be in relatively small bin sections and should be grouped first by broad category, such as stationery, chemicals, glassware, or building materials. Within a category they should be grouped by physical size so that smaller bins can be together, medium together and large together. This saves space.

Assign to each item a catalog number—and have a catalog made of what you are storing. It is



This is a three-section warehouse locator card. Carton label with large number is pasted on case; other two copies are filed together in stores office. When case is needed, withdrawal order is sent to warehouse; inventory copy remains in file. After withdrawal, order goes back to file. Both copies are destroyed when case is empty.

Mr. Wood is a consulting engineer in the school and institutional field. This article is a condensation of a talk he gave at the recent convention of the National Association of Educational Buyers in Pittsburgh. Although his remarks are directed to college stores problems, Mr. Wood's suggestions are applicable to many industrial companies.

desirable but not essential that the catalog show price. Catalog numbers should be assigned in numerical sequence to match the physical sequence of arrangement in bins. In this way inexperienced order pickers can readily locate items and do not need to know anything about the item other than the number.

Proper cataloging is an art. If the number or at least the last two or three digits are locating numbers it becomes necessary to renumber an entire catalog as items are added or removed from the line. The large mail order houses will usually renumber with each new catalog issued, and this may be twice a year.

Catalog numbers should be combinations of letters and digits and each part of the number can have a real meaning. For example

the first digit might indicate the category — stationery, chemicals, glassware or building material; the second symbol might be a letter which would indicate what catalog had been used, just in case the user might be ordering from an old one; the third symbol might be a letter to indicate the row of bins in which the item is located; and the last two or three symbols could indicate the bin number. As an illustration, catalog number 6GA472 would mean department or category 6, catalog G, Row A, bin 472.

List by Name

It is not desirable to have the number indicate size or color—these can be listed in the catalog and indicated separately on the customer's requisition and on the bin label. The items in the catalog

should be listed alphabetically by the name under which they are most commonly known. In fact it may be desirable to list them under more than one name.

Reserve stocks need not be kept together by category, nor should any effort be made to store the same item in the same place. If you assign certain areas for the storage of each bulk item you will waste about 50% of floor space, because you are always leaving room for an indefinite quantity to be received at some future date. Instead, reserve stocks which will be in cases, should be stored on racks. Shelf height should vary so that in general you can store cases only two high for easy removal. Rack sections are numbered, as are the aisles.

Each case is stored when re-

ceived in any convenient unoccupied rack space. A locator ticket is made out in triplicate. One copy of this ticket contains a case number in large numerals visible at quite a distance—this is pasted to the case. The other two copies are filed in the stores office. The storekeeper who places the carton writes in on all three copies the date received, the name of the item, the catalog number, and the rack section in which he places the carton or case.

When forward stock bins need replenishment, remove from the file the second copy of the locator ticket (this is called the withdrawal order copy) of the oldest case on hand, find the case by its

location and use it to fill the forward stock bin. The ticket is marked "withdrawn" and returned to the file clerk, who will then destroy the original or "inventory file" copy of the ticket, as well as the withdrawal copy.

Auditors Will Approve

This process will keep reserve stock racks filled and it has several useful by-products. It is possible to use the case tickets file as an inventory record. Clip together the quantity of case tickets which indicate the re-order point. At any time you can know how many of the items are in stock—add up the quantities on your case tickets for an approximate

number—and if you want to know precisely (which you shouldn't) you can count the quantity in the forward stock bin and add that to your other total.

Most auditing firms will accept this file as an inventory record for annual audit purposes. They will spot check the cases against the tickets in the file and thus eliminate the actual counting of the reserve stock. For slow-moving items reserve stock rack may be used as a forward stock bin.

The requisition on which goods are ordered from stores should be in duplicate only if goods are picked up, in triplicate if they are delivered. One copy should be kept by the user to know what he has ordered, and one goes to the store. No one else needs a copy—and this includes the accountants, and the storekeeper too after the order is filled. These forms must be serially numbered.

The original copy is used both to pick the order and as the invoice. Only if the goods are delivered is there a need for a third copy, as a delivery ticket to go with the goods. On this copy do not indicate price but merely check off the items delivered; indicate any items backordered or not carried in stock.

A pre-printed order form or so-called "laundry list" can be used to great advantage. One of the best is that used by the United Cigar-Whelan Drug Stores. It is a combination order and catalog, reprinted every five weeks on multilith presses from paper plates that are automatically prepared from IBM cards on an IBM printer. The right side of the order page is a series of five perforated coupons—one for each of five weeks. The coupon shows the catalog number. The order clerk merely fills in the quantity wanted, tears off the coupon and mails it to a central warehouse. The catalog serves a double purpose—it provides orders for two separate departments or categories of items. You order from one side of the book for one, then you turn it over and order from the other side for the second. The coupon contains two separate orders—one on each side.

(Please turn to page 161)

SPECIFICATIONS											
FOR FURTHER INFORMATION SEE STANDARD SPECIFICATIONS											
MAX. STOCK	MIN. STOCK	REORDER POINT									
PRICE 125	30										
DATE REC'D OR DISH'D 1/20	BAL. 150	DATE REC'D OR DISH'D 1/25	BAL. K100	DATE REC'D OR DISH'D 1/20	BAL. 150	DATE REC'D OR DISH'D 1/25	BAL. K100	DATE REC'D OR DISH'D 1/20	BAL. 150	DATE REC'D OR DISH'D 1/25	BAL. K100
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A simple perpetual inventory card. Description, stock location, and stock levels are readily visible on tab that sticks out of open file. Form has space for price changes. In this case it shows two balances in stock: an old balance at 25¢, and a new shipment at 30¢. One advantage of this type of form is that old and new prices don't have to be averaged.

Massachusetts Institute of Technology		P.O. No.	Req. No.
ACQUISITION TO	CHARGE	ACCOUNT NAME	87814
PURCHASE TO	ITEM NO.	QTY. NO.	APPROVED BY
DATE	DAYS REQUIRED	CONFIRMING	NOTIFIED
SUGGESTED VENDOR			

A multi-purpose, but still simple, requisition form. If sent to stores, it is used as an invoice or charging document. If material is not stocked, form can be sent to purchasing department as a buying requisition.

Recent Decisions

In Purchasing Law

By Albert Woodruff Gray Legal Editor



The Trucker Must Pay For Loss by Fire

AN ILLINOIS manufacturer employed a local truckman to deliver a printing press to a motor carrier for shipment to a customer in Georgia.

While the press was in the truckman's garage awaiting the motor carrier it was destroyed by fire. Awarding judgment against the truckman for the value of the press the court said:

"Generally truckmen employed to carry goods from one part of a city to another, are common carriers. Before such initial carrier can relieve itself from its liability the delivery must be made to the connecting carrier.

"Damages for this loss chargeable to the truckman are the sales price to the buyer less the salvage value of the press, irrespective of the amount paid by the purchaser."

Type & Press of Ill., v. Gorter, 164 N.E. 2d 223, January 19, 1960

Manufacturer Loses His Lien Rights

AN AUTOMATIC die delivered by the manufacturer to the customer, was later returned for making corrections. When the manufacturer refused to return the die until payment had been

made, the customer sued for its possession.

"Assuming that the manufacturer may have originally had the right to a lien for the unpaid balance of the purchase price," said the court in awarding judgment for the return of the die, "nevertheless such lien rights as they may have had were lost upon a delivery of the die to the customer.

"Redelivery by the customer for the express purpose of making alterations would not revive the manufacturer's lien rights for an unpaid balance of the purchase price."

Huckleberry v. Davis Double Seal Jalousies, 117 So. 2d 519, February 1, 1960

Quasi Contract Holds Consignee Liable

AN ORDER for steel beams, received by a Dallas, Texas, dealer over the telephone, was delivered that same day to the purchaser in Houston, as directed.

However, when these beams were delivered someone scratched off the name of the purchaser and, without the knowledge of either the seller or the buyer, substituted the name of the Ferrous Products Co. The beams were then sold by this substituted consignee.

In the suit brought by the deal-

er against the receiver of the beams, the court in awarding judgment said: "When Ferrous changed the bill of lading without the knowledge or consent of the seller by substituting its own name as consignee, and having received the beams and sold them and appropriated the proceeds, Ferrous became liable to the seller for the market value of the beams. The liability arises under what the law has come to denote a quasi-contract."

Ferrous Products Co. v. Gulf States Trading Co., 332 S.W. 2d 310, February 17, 1960

Worker Loses Because of Contributory Negligence

A SUIT brought against an Illinois tool manufacturer by a Wisconsin workman demanded damages for negligence in the manufacture of a hammer.

Attempting to drive a claw of the hammer under a nail head the workman struck the striking face of one hammer with the striking face of another hammer, sending a chip from one of the hammers into his eye.

The jury rendered a verdict for the manufacturer on the ground that the workman had been negligent himself, had been contributorily negligent. The appellate court approved, saying:

"If this workman had a choice



recent decisions in purchasing law

of ways in which to do his work and carelessly selected a dangerous way, he was negligent. He was under the obligation to use for his own safety such care and caution as an ordinarily reasonable, prudent and intelligent person would have used in like circumstances."

Odekirk v. Sears Roebuck & Co., 274 Fed. 2d 441, February 5, 1960

Perpetual Agreement Is Binding

A CONTRACT between an Illinois tool steel manufacturer and a distributor in California stated that the distributor should sell \$10,000 worth of the manufacturer's products in 1951, \$12,000 in 1952 and \$15,000 in 1953 and \$15,000 each year after January 1, 1954. It further provided that the agreement could be cancelled if the distributor failed to meet his quota.

When in 1957 the manufacturer attempted to terminate the agreement, the distributor argued that he could not do so as long as the distributor maintained this quota of \$15,000 a year.

The Federal court sustained the contention that the contract would continue so long as the distributor maintained the agreed quota. From an earlier California decision the court quoted, "Such provisions for the duration of the contract are sufficiently certain and valid. As a general proposition the failure of an executory contract to state a time presently definite for its termination does not render it void for uncertainty."

In another California court decision it had been asserted, "The failure to specifically limit the duration of the contract did not fatally affect it and did not give

rise to a right to terminate the contract at will without a liability for damages."

The Federal court added, "Although indefiniteness as to its duration may sometimes be an obstacle to the enforcement of a contract, in general a contract is not definitely defective merely because it does not specify a time presently definite for its termination.

"Thus when an agreement does not specify a definite term but provides its termination, in effect, so long as one party continues to perform or act in a certain manner, it is sufficiently certain."

Of the particular contract involved in this controversy the court added, "The contention of the parties seems quite clear from the provision, 'The agency agreement outlined above may be cancelled by either party upon a 30-day written notice provided quotas set forth are not met.'

"Here the parties performed the contract and each side lived up to its commitments from the time the contract was entered into in 1950 until December 31, 1957. Under the California law the contract is a definite, mutual and binding obligation."

Liberty Industrial Sales, Inc. v. Marshall Steel Co., 272 Fed. 2d, 605, December 15, 1959

Warranty Breach Requires Notice

UNDER an agreement between a manufacturer of luggage and a discount house in Wilmington, Del., the manufacturer agreed to fill all orders of the discount house for luggage on a requirements basis. This the manufacturer failed to do.

The retailer used this failure as a counterclaim for damages

when the manufacturer sued to recover an unpaid balance. The manufacturer argued that no notice of a breach of warranty had been given. On its part, the discount house contended that no such notice was necessary.

Denying the discount house the right to recover damages, the Delaware court said:

"The right of action of the discount house is now based solely upon the alleged requirements contract for the loss which it is alleged to have sustained to the stock which it purchased from the manufacturer, because of the manufacturer's refusal to make future deliveries in accordance with its contract."

Concerning the contention that no notice of breach of contract was necessary, the court said: "As we understand the contention of the discount house it is that the statute relating to notice applies only to those cases involving a defect in quantity, quality, lack of conformity to sample, failure to comply with description or some other circumstances causing money damage to the buyer or a failure to deliver on time."

In the statute of that state, as well as in the Uniform Sales Act, it has been enacted: "In the absence of express or implied agreement of the parties, acceptance of the goods by the buyer shall not discharge the seller from liability in damages or other legal remedy for the breach of any promise or warranty in the contract to sell or the sale."

"But if after the acceptance of the goods the buyer fails to give notice to the seller of the breach of any promise or warranty within a reasonable time after the buyer knows or ought to know of such breach, the seller shall not be liable therefor."

In its conclusion that for lack

of this statutory notice the discount house had no recoverable claim for damages, the court said: "We agree that in most of the cases involving an interpretation of this section of the Uniform Sales Act, or the equivalent section in the different states, the question involved is a breach of warranty relating to the quantity or quality of the articles sold, but in our opinion this section is not limited to such purposes.

"The language of this section is clear and we think not open to construction. It is specifically stated therein that the section relates to any promise or warranty. It is also provided in this section that in the event of failure on the part of the buyer to comply with this condition he may not recover upon his counter-claim."

Klein v. American Luggage Works, Inc., 158 Atl. 2d 814, March 17, 1960

Carrier Responsible for Damage in Transit

TRANSFORMERS to be installed at Grand Rapids Metalcraft were ordered from the Westinghouse Electric Corp. Kirkhof Electric Co. the contractor, did not specify the carrier or manner of shipment in delivery.

Upon completion the transformers were shipped by truck to Metalcraft. Badly damaged in transit, they were returned for repairs. Later, the Kirkhof Electric Co. brought action against the motor carrier for the damage.

The carrier contended in its defense that the transformers became the property of Metalcraft upon their delivery to the carrier, hence the action could not be maintained by Kirkhof; and further, that the measure of damages was the cost of repair.

The federal court held that Kirkhof had title to the transformers when the carrier received them from Westinghouse, and that the risk and right to recovery was in that consignee. Damages, according to the court, were governed by the rule that where a person is entitled to judgment for harm to chattels not amounting to a total destruction in val-

ue, the damages include compensation for the difference between the value of the chattel before the harm and the value after the harm, or, at the owner's election, the reasonable cost of repair or restoration, where feasible, with due allowance for any difference between the original value and the value of the repairs.

To this the court added in conclusion, "The court is satisfied that the owner is entitled to recover the cost of repairs, plus cost of shipping."

Kirkhof Electric Co. v. Wolverine Express, Inc., 175 F.S. 43, August 6, 1958

Statement of Account Cancels Debt

A CONTRACTOR leased pumps and other equipment for use in laying underwater foundations for a bridge on a New Hampshire state highway. To prevent these pumps from freezing during the night they were heated by gas heaters.



When using tools or equipment, a person is "under obligation to use for his own safety such care as an ordinarily reasonable, prudent and intelligent person would have used in like circumstances."

An explosion and fire badly damaged the pumps. Their owner set the salvage value at \$600. The original value of the equipment was \$10,213.90. An invoice was rendered the lessee for the difference of \$9,613.90.

On the statement of this account for the second month following there was a credit of \$9,613.90, leaving a small unpaid balance which the lessee paid. This credit represented an insurance payment received by the pump owner.

Shortly after this balance had been paid the pump owner brought suit against the contractor. The lessee made the defense that an account had been rendered crediting the amount for which the suit was brought and that he had accepted it as an "account stated."

Denying the owner of the pumps a recovery against the contractor and lessee, the court said: "The statement accepted by the lessee is an 'account stated,' thereby fixing the amount of the lessee's liability. The parties stood in the relation of debtor and creditor. The lessee undoubtedly owed the lessor something but the amount of the debt was originally unliquidated, due to the necessity of estimating values. Then the account was rendered and accepted."

Griffin Wellpoint Corp. v. Munro-Langstroth, Inc., 269 Ged. 2d, 64, July 31, 1959

Assigned Royalties Must be Paid

ROYALTIES payable to it by the Mars Metal Corp. were assigned by Barco Industries to a third party. In a letter to the assignee, Barco stated that this would serve as an irrevocable instruction to the Mars Metal Corp. to pay to the assignee 20% of the minimum royalties and all other royalties payable to Barco.

Later suit was brought by the assignee against the Mars Metal Corp. to recover these royalties, which had not been paid. In its defense, Mars referred to an agreement with Barco that had been executed after the royalty

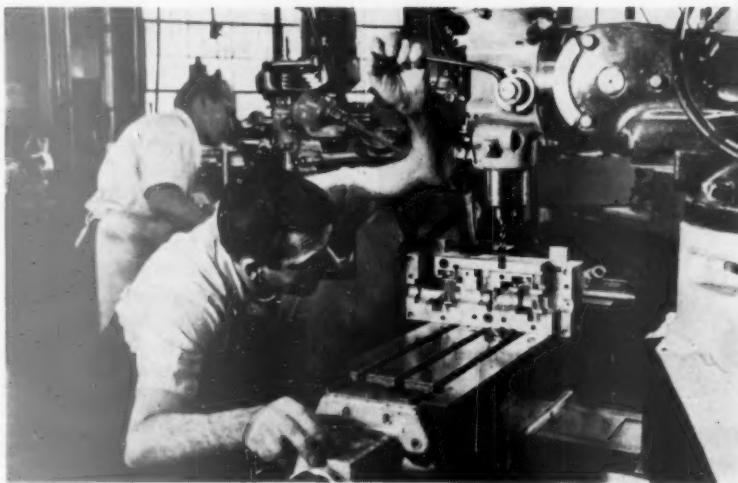
(Please turn to page 160)

Precision Castings Get Bigger And Better

Ceramic shell molding is opening new fields for investment casting. Intricately-cored parts weighing up to 100 lbs are cast to close tolerances and with a fine surface finish.



With ceramic shell molding, investment castings of complex shapes (shown above ruler) can be made in regular production runs. In contrast, typical investment castings made with conventional solid molds appear below ruler.



A shell type mold is made by building up successive ceramic layers around a wax or plastic pattern. Here a toolmaker machines pattern die into which molten wax will be injected.



After hardening, wax pattern is removed from the die. Intricate coring is produced by injecting regular wax around a water soluble core. Gating systems can be welded to the pattern with wax.



The pattern and gate assembly is immersed in a ceramic slurry, covered with a refractory grain, and re-dipped to build up a mold. The number of ceramic layers depends upon thickness required. Six layers build up a thickness of about $\frac{1}{4}$ in.



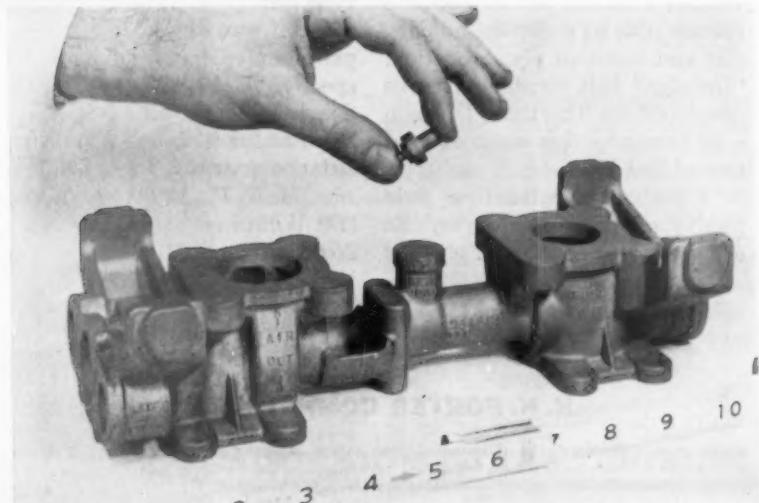
Refractory grain is applied after each dipping. After achieving the desired thickness, the shell is dried for 24 hours, and dewaxed by a flash process at 1800 deg F. Firing for 30 minutes at 1600 deg. F. gives the mold a porcelain-like interior surface.



The shell is cast with a vacuum assist to insure dense metal. Pouring temperatures are carefully controlled and shells must be preheated to prevent cracking unless they are used immediately after firing. In cooling, shell and metal tend to separate.



After gates are cut off and the part is sandblasted, the casting is inspected. All receive careful visual inspection; critical dimensions may be gaged by micrometer. If customer desires, a fluorescent penetrant is used to check surface imperfections, or an X-ray examination is made to detect internal flaws.

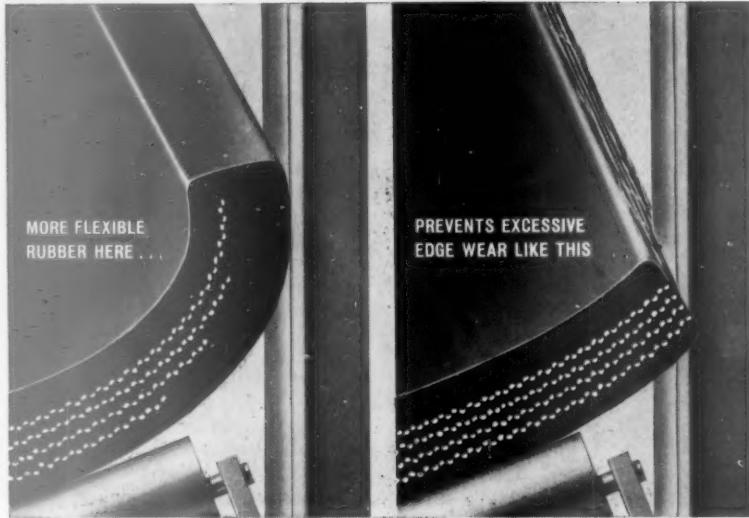


Close-up of completed casting shows intricate contours and complex shape. Investment castings have smooth, finely detailed surfaces, which require little finish machining. With the ceramic shell process, they can be turned out in virtually all castable alloys.

Photos courtesy Arwood Corporation,
New York, N. Y.



"COLEDGE" BELTING REDUCES EDGE WEAR, ADDS MILES OF USE!



Improper training can ruin a conveyor belt faster than any other abuse. Riding up and rubbing against a frame member soon wears away the stiff edge of conventional belting and exposes the carcass plies to moisture, mildew, dirt and eventual ply separation. "Coledge" belt construction was developed by Thermoid Division—to overcome this weakness and extend belt life.

"Coledge" construction puts plenty of extra rubber on the edges where it counts... plies are

stepped back to make a more flexible edge that rides with the punches when misalignment occurs. This "Coledge" construction is available in any standard type belt.

So, if you have an edge-wear problem with conveyor belts, specify "Coledge" construction. See your Thermoid Division distributor for technical data or assistance or write, *Thermoid Division, H. K. Porter Company, Inc., 200 Whitehead Road, Trenton 6, New Jersey*.

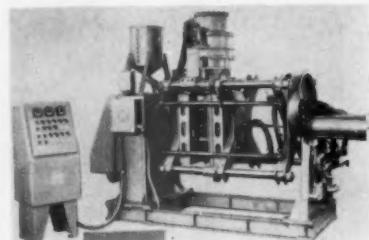
THERMOID **PORTER** **DIVISION**
H. K. PORTER COMPANY, INC.

PORTR SERVES INDUSTRY with steel, rubber and friction products, asbestos textiles, high voltage electrical equipment, electrical wire and cable, wiring systems, motors, fans, blowers, specialty alloys, paints, refractories, tools, forgings and pipe fittings, roll formings and stampings, wire rope and strand.

For More Information Write No. 206 on Place Mark Card—Page 32

Products

100 Lb. Capacity Shell Core Machine



A 100 lb. capacity shell core machine will mass-produce either large shell cores in single cavity boxes or a wide range of medium-size cores in multi-cavity boxes. All operations except actual removal of finished cores from boxes are fully automatic. Features include automatic gravity sand feed; integral direct-acting springless stripping mechanism; simplified core box mounting; platens that accommodate core boxes up to 24 x 30 x 14 in. SPO Inc., 6438 Grand Division Ave., Cleveland 25, Ohio.

Write No. 18 on Place Mark Card—Page 32

Graphite Spray Is Ideal "Dry" Lubricant



A graphite spray is recommended wherever a "dry" lubricant is indicated, where petroleum products must be avoided, or where temperatures are extreme. Even dispersion gained through aerosol application means top efficiency. Lubricant is ideal for bearings, locks, conveyor parts, flat springs, hinges, oven parts, die casting machines and the like. Ind. Supply Div., Sprayon Products, Inc., 2075 E. 65th St., Cleveland 3, Ohio.

Write No. 19 on Place Mark Card—Page 32

For More Information about ad on facing page

Write No. 207 on Place Mark Card—Page 32→

PURCHASING



stainless

because no other
metal will do
the job as well—

stronger
handsome
ever-bright
non-corrodible
easy to clean

thanks to

Superior

STAINLESS STRIP STEEL

Your fire extinguisher with the stainless body features a very good reason for being ever-ready for service: stainless steel is the *changeless* metal — good as new, year after year, without costly maintenance. • Made of SUPERIOR Stainless Strip Steel, the extinguisher body is easy to draw and weld—always uniform in behavior and performance because of uniformly Superior quality, coil after coil. Let us quote on your stainless requirements.

SUPERIOR STEEL DIVISION

OF
COPPERWELD STEEL COMPANY
CARNEGIE, PENNSYLVANIA

For Export: Copperweld Steel International Company, New York

The Arithmetic of Materials Handling



Fuller Airveyor unloads wood flour to two forty-five foot silos. Second Airveyor system reclaims material 360 feet to processing.

General Electric Changes From Bags to Airveyor ... Cuts Handling Costs 60%

As part of a program to increase plastics production and reduce operating costs at its Pittsfield, Mass. plant, General Electric Company called in Fuller engineers to design systems for handling wood flour in bulk.

Wood flour—used as a filler in phenolic molding compounds—was being handled in 75 and 100-pound bags. Unloading one carload of bags required 16 manhours. Bags were loaded on dollies and wheeled to a distant elevator.

SAFETY FIRST—The two pneumatic Airveyor® materials handling systems, engineered and manufactured by Fuller Company, were installed by its parent company, General American Transportation Corp., providing undivided responsibility. This installation resulted in a 60% saving in handling costs! The two systems

are handled by one full-time and one part-time operator. Manhours to unload one car have been reduced from sixteen to six!

In addition, all equipment is designed to conform to strict safety specifications set down by G-E engineers.

FLOW YOUR MATERIALS—The Airveyor is a system that flows your material through sealed pipes. It's fast, safe, and self-contained. The pipes can be placed close to ceilings, run underground or through walls.

Whether you process wood flour—or other dry granular materials—look into the many economies of Airveyor conveying. Write today for interesting, detailed literature on Airveyor and other Fuller pneumatic materials handling systems.

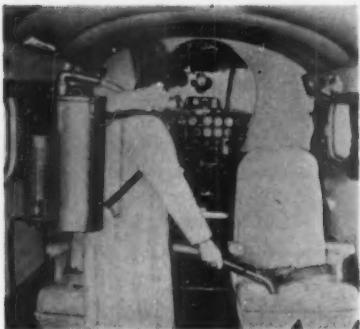


Fuller
pioneers in harnessing AIR

FULLER COMPANY
170 Bridge St., Catasauqua, Pa.
Subsidiary of General American Transportation Corporation
Offices in Principal Cities Throughout the World

Products

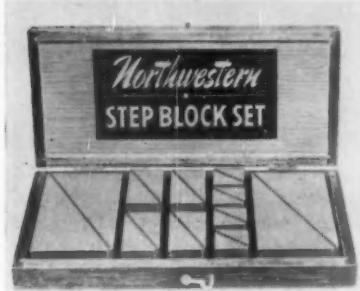
Portable, High Suction Non-Electric Cleaner



An entirely air-operated cleaning unit with high suction power is ideal for general cleaning operations where maximum portability is required. Unit can be hand carried, strapped to the back, pulled along the floor on its runners, or hung to a fixture. Originally designed for cleaning airplane interiors, it weighs only 17½ lbs. and has a capacity of 1 cu. ft. Being non-electric and with no moving parts, it can be operated even in hazardous locations. **Vac-U-Max, 1 Montgomery St., Belleville 9, N. J.**

Write No. 20 on Place Mark Card—Page 32

Aluminum Step Blocks In Sets of Ten



Aluminum step block sets save time and eliminate use of hit-or-miss temporary blocks and shims for heel supports in clamping. Set consists of ten step blocks. Four have a capacity of ¾ to 1½ in., four 1½ to 2½ in., and two 2½ to 6 in. They come in sturdy plywood case. **Northwestern Tools, Inc., 142 Hollier Ave., Dayton 3, Ohio.**

Write No. 21 on Place Mark Card—Page 32

How much oil do you use each day threading pipe, rod or conduit by hand or power drive?

One-half pint? One gallon? If it winds up on the floor, you're spending somewhere between \$25 and \$450 a year just for the privilege of cleaning up oil.

The RIDDLR saves that money for you . . . lets you use all the oil you should!

- **Ends Oil Waste and Messy Floors**—Costly oil is double screened and re-used again and again.
- **Lengthens Die Life**—Well oiled dies last longer, stay sharper . . . gives cleaner threads for fast, easy installation.

The easy-to-carry RIDDLR comes complete with a screened chip pan, circulating oil reservoir and hose-connected hand pump-gun. See it . . . buy it at your local Supply House. You'll be glad you did!

Costs Only \$23 20
with
2 gallons of
RIDDLR
Thread Cutting Oil!



RIDDLR Dark and Nu-Clear Thread Cutting Oils are available in convenient (4 ounce Nu-Clear only), 1 quart, 1 gallon, (2 gallon Nu-Clear only), 5 gallon, 30 gallon and 55 gallon containers.

RIDDLR

The Ridge Tool Company, Elyria, Ohio, U.S.A.

For More Information Write No. 209 on Place Mark Card—Page 32

ALLEN

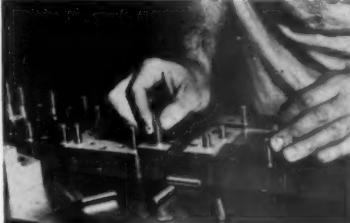


**ALLEN is
the dowel pin
that gives
you PLUSES !**

Your ALLEN Industrial Distributor can show you a good many ways to use ALLEN Dowel Pins, in addition to conventional uses in tool and die work. You can use them as economical roller bearings, axles, precision plugs, hinge and wrist pins—and in many other ways.

You can cut the cost of your product substantially, too—because your ALLEN Distributor can supply these strong, accurate, mirror-finished Dowel Pins in standard sizes right from stock.

Made of special Allenoy steel; surface hardened to 62-64 Rockwell C; precision ground to .0001" with micro-inch finish of 6 RMS max. Check your Allen Handbook or Catalog for detailed specs and standard sizes, or write direct for samples and technical information.



Genuine ALLEN products are available only through your ALLEN Distributor—he's always ready, willing and able to give you prompt, practical service.



ALLEN MANUFACTURING COMPANY

HARTFORD 1, CONNECTICUT, U.S.A.

For More Information Write No. 210 on Place Mark Card—Page 32

Products

Maneuverable, Stand-Up Fork Lift Truck



A stand-up fork lift truck is described as "nimble as a cat." Truck under full power turns completely around inside boxcar after depositing load. Zero inside turning range, 360 degree steering, economical 3-cylinder gasoline or LP gas engine are features of maneuverable, low-maintenance fork lift. **Mobilift Div., Minneapolis-Moline Co., Hopkins, Minn.**

Write No. 22 on Place Mark Card—Page 32

Slitter for Tough Cable Sheathing



A cable sheath stripper which can be used with most types of cable jackets is especially good for outdoor, heavy-duty cable sheathings. Slender but tough and very sharp hook blade digs in between sheathing and wires and with side supports gives most accurate jacket stripping on both large and small diameter cables. Cable can be cut into at any point without previous notching through sheathing. Blades are easily changed, and an extra blade is included. **P. K. Neuses, Inc., 511 N. Dwyer St., Arlington Heights, Ill.**

Write No. 23 on Place Mark Card—Page 32
For More Information about ad on facing page
Write No. 211 on Place Mark Card—Pg. 32 ➤
PURCHASING



Specialization in bearings enables us to apply to your bearing problems an unmatched engineering talent and experience in powder metallurgy. You benefit, too, from outstanding manufacturing facilities, including the world's largest inventory of dies. Whatever your need, when it's bearings, see the bearing specialists...see Bound Brook.

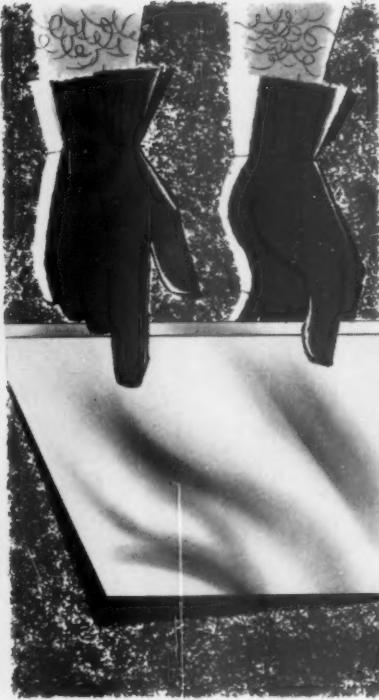
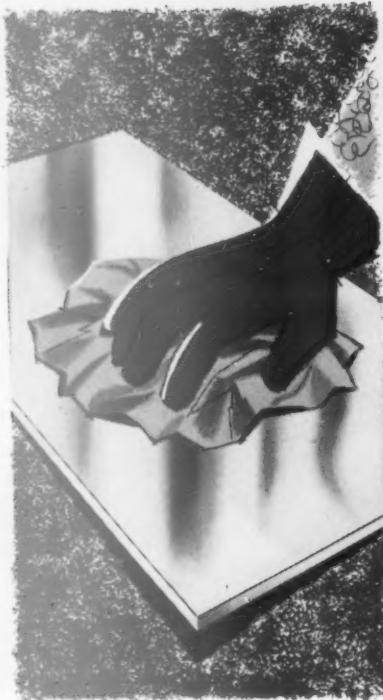
BOUND BROOK

Bound Brook Oil-less Bearing Co., Bound Brook, N. J.
Pioneer in Powder Metallurgy Bearings and Parts.
Plants at Bound Brook, N.J. and Sturgis, Mich.

USS Amerstrip—everything about its method of manufacture has the stamp of precision. Just specify what you need in a cold rolled strip, whether it's a precise gauge, finish, edge, tolerance or temper and you get exactly what you specify. USS Amerstrip will keep your product quality high and consistent because of these six distinct advantages:



AMERSTRIP GIVES YOU PRECISELY



PRECISION FINISH

With USS Amerstrip we take special pains to give you a finish that is just right for the specific results you require in a finished product. We believe the Amerstrip finish is the finest you can get in the industry.

PRECISELY PREPARED EDGES

Because USS Amerstrip is produced in order-sized quantities engineered to your own specifications, we can give you precisely the edge finish you need. Choose your edge—square, standard, round, full round or bevel.

PRECISE TEMPERS

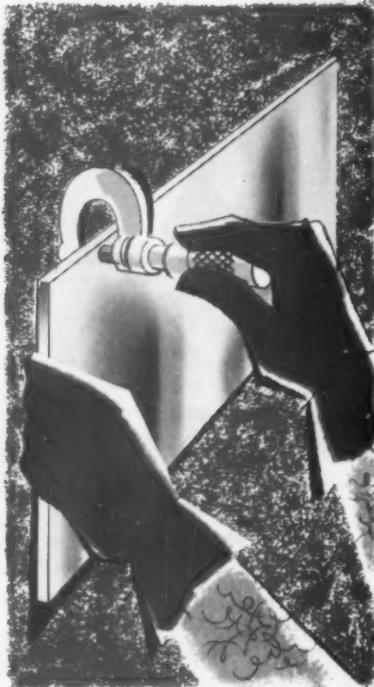
Whether your product must go through a deep draw or undergo other stringent forming operations, or if it requires a special temper for rigidity, you'll always get the correct temper for the job when you order USS Amerstrip.

WHAT YOU NEED IN A COLD ROLLED STRIP



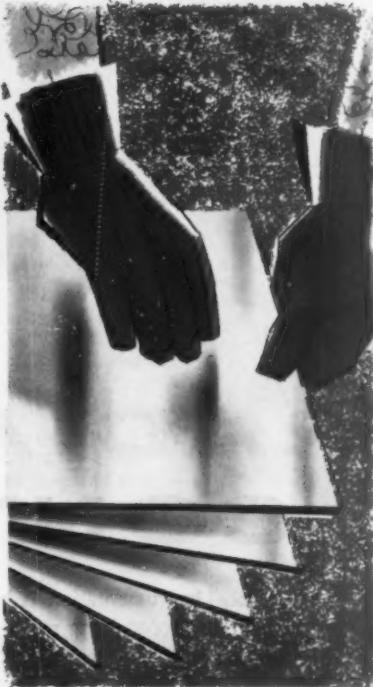
PRECISE WIDTH TOLERANCES

When your fabricating machines require a special width strip, you can be sure that's the width you'll get with Amerstrip. We can produce USS Amerstrip within required tolerance limits to fit your special requirements.



PRECISE THICKNESS TOLERANCES

Whatever thickness tolerance your machines demand, you'll get it in Amerstrip. And it'll be precisely the same in every inch of Amerstrip ordered. Amerstrip can be rolled in thickness tolerances of plus or minus .0005 inches.



PRECISE UNIFORMITY

Regardless of the size of your order, every coil of USS Amerstrip comes off the line uniform in finish, temper, width and thickness. In short, USS Amerstrip's precision production assures a continuous run and high yield.

American Steel & Wire Representatives have the training and experience to give you expert guidance in fabrication and application of USS Amerstrip. They can show you how it contributes to a better finished product. To avail yourself of their services, call your nearest AS&W District Office. American Steel & Wire, 614 Superior Ave., N.W., Cleveland 13, Ohio.

USS and Amerstrip are registered trademarks



**American Steel & Wire
Division of
United States Steel**

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributor.
Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, New York



RADIATION CONTROL

*AccuRay** instrumentation is based on the radiation of gamma rays from a source unit containing radium-226 or cesium-137. Source units are effectively shielded by housings cast in Meehanite by Hamilton Foundry. The density, and soundness of Meehanite castings provide the positive protection essential for safe and reliable instrumentation.

When buying castings, the skill and integrity of Hamilton Foundry is your best insurance that specifications—and delivery schedules—will be met.

*AccuRay is the registered trade mark of Industrial Nucleonics Corporation

GRAY IRON • ALLOYED IRON • MEEHANITE® • DUCTILE (NODULAR) IRON • NI-RESIST • DUCTILE NI-RESIST • NI-HARD



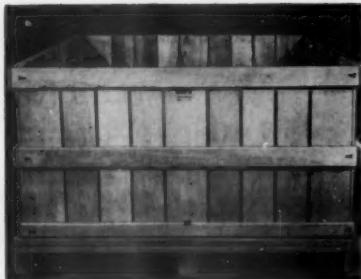
HAMILTON FOUNDRY INC.

1551 LINCOLN AVENUE • HAMILTON, OHIO • TWINBROOK 5-7491

For More Information Write No. 213 on Place Mark Card—Page 32

Products

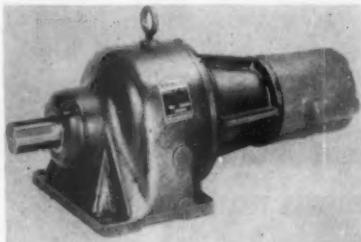
Hinged Pallet Boxes Easy to Assemble



A hardwood pallet box features unusual corner construction. Four side panels are wireless and are formed by stapling the slats to outside cleats. These panels are joined by corner hinges that provide the strength of rigid corners, yet box can be knocked down or assembled with only a screwdriver in a matter of seconds. Specially pre-formed wires interlock to form a true hinge, the strength of which is not reduced by repeated opening and closing. General Box Co., 1825 Miner St., Des Plaines, Ill.

Write No. 24 on Place Mark Card—Page 32

Horizontal Differential Speed Reducers



A series of differential speed reducers offers seven horizontal motorized models. Ratios range from 1.1:1 to 50,000:1, from .12 to 8.51 hp. Maximum output torque range is from 50 to 113,000 in. lbs. Unified helical gear planetary element automatically equalizes load distribution by means of "floating" principle. Speed reducers will fit any standard "C" flange motor, and overall dimensions of individual models do not vary regardless of the reduction ratio. Winsmith, Inc., 80 Eston St., Springville, Erie Co., N. Y.

Write No. 25 on Place Mark Card—Page 32

For More Information about ad on facing page
Write No. 214 on Place Mark Card—Pg. 32 ➤
PURCHASING



NEW BULLDOG XL BUSTRIBUTION DUCT CUTS INSTALLATION TIME 3 WAYS

You can install XL BUStribution® Duct easier, faster than any other duct because of these exclusive new design features . . . plated aluminum bus bars with KEYED ENDS slip together fast, align automatically for proper position. There's no fumbling and fitting . . . ONE INTEGRAL BOLT tightens fast, locks joint positively under a ton of pressure. Bolt tightens against bus bar, not against the casing . . . TEN-FOOT SPANS take fewer hangers and less time to install than ordinary duct.

BullDog Electric Products Division, I-T-E Circuit Breaker Company, Box 177, Detroit 32, Michigan. In Canada: 80 Clayton Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N. Y.

New XL BUStribution Duct is 3 ways safer, too. It's the only true dead-front duct, the only one with exclusive Safety Door, the only one with Safety Plug. And it reduces duct weight on building structure as much as 40%. Ask your BullDog representative to arrange for a demonstration . . . you'll see how fast to install and how safe new XL BUStribution Duct really is.



SINGLE INTEGRAL BOLT puts a ton of pressure on keyed bus ends. Joints lock tight *fast*, stay locked.



TEN-FOOT SPANS take fewer hangers and less time to install than ordinary duct.



BULLDOG ELECTRIC PRODUCTS DIVISION
I-T-E CIRCUIT BREAKER COMPANY



"Call FOSTER for Rail" ... Get Relayers PLUS



Installing or expanding in-plant trackage? Foster will deliver Quality Relaying Rail at lower cost . . . "plus" all necessary new track accessories, switch material—even the track tools to do the job. To help select the materials best suited to your job, call the Foster Track Specialist.

You will save on freight from Foster's nationwide warehouses, all of which stock all sections of relaying rail "plus" new rail for crane runways and specialized applications.

Another "plus": Foster's Track Inspection Kit, which illustrates all the elements needed for an efficient industrial siding. It's a real help for proper track maintenance.

Write **L. B. FOSTER CO.** for free Track Kit PA-8 Pittsburgh 30, New York 7, Chicago 4, Houston 2, Los Angeles 5, Atlanta 8, Cleveland 35.



Faster From Foster

Pipe • Rental Steel-Sheet Piling • Pipe Pile • Rail

For More Information Write No. 215 on Place Mark Card—Page 32

Products

Rub-Proof, Long-Lasting Instant-Dry Marker



A long-lasting marker that is water-proof, rub-proof and smear-proof dries immediately upon contact. Marker cannot leak or spill and there is no refilling problem, since each unit is handy disposable container. It writes on almost anything, including metal, and comes in fourteen assorted colors. **Old Town Corp., 750 Pacific St., Brooklyn, N. Y.**

Write No. 26 on Place Mark Card—Page 32

Durable, Extra-Small Mercury Switch



Specifications of a miniature mercury switch are $\frac{1}{2}$ in. maximum length and .162 in. in diameter, with a 1/10 amp rating. Initially developed as reversing switch for portable electric device motor clutch, durable switch is ideally suited for such applications as miniature on-off switch, paging devices, hearing aid switch, or applications that have low load, light weight or space factors. **Gordos Corp., 250 Glenwood Ave., Bloomfield, N. J.**

Write No. 27 on Place Mark Card—Page 32

For More Information about ad on facing page

Write No. 216 on Place Mark Card—Page 32

PURCHASING



a pebble at 30
can be a landmine at 300

the harder you drive for
super speed production
the more you need safe-
guards offered you in...



brass

copper

aluminum

MILL PRODUCTS

®

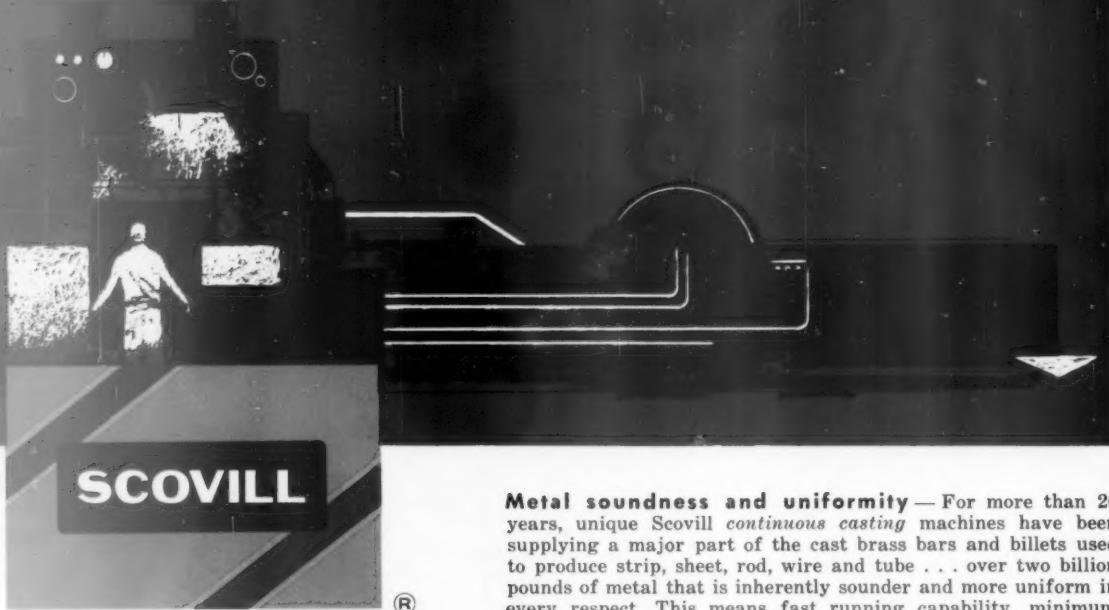
MADE IN USA

... and made better to bring out the **BEST** in your products

Scovill Manufacturing Company, Mill Products Division, 99 Mill St., Waterbury 20, Conn. Phone PLaza 4-1171

3SC60

Scovill's new Sendzimir Rolling Mill,
producing closest tolerance, finest
finish Brass and Aluminum Strip and Sheet.



features
to help you take
full advantage
of today's
high speed
methods and
machines

Metal soundness and uniformity — For more than 20 years, unique Scovill *continuous casting* machines have been supplying a major part of the cast brass bars and billets used to produce strip, sheet, rod, wire and tube . . . over two billion pounds of metal that is inherently sounder and more uniform in every respect. This means fast running capability, minimum down-time and rejects, better quality products.

Close-tolerance specifications — Modern high-speed fabricating equipment is increasingly intolerant of what once were considered minor variations in grain size, temper, dimensions, surface finish. Scovill advanced engineering and quality-control procedures, working with new close-tolerance production equipment, meet or exceed the demands of highest-speed fabrication.

Selection of the right alloys — Scovill Metals Research maintains a continuing program of research into the practical needs of mill products fabricators. Scovill's broad range of alloys permits recommendation of exactly the right properties and qualities for a given job.

The industry's most advanced packaging — Packaging of Scovill Brass, Copper and Aluminum Mill Products can make a specific contribution to speed and efficiency in your operations . . . save you handling time and space in storage . . . cut production down-time and start-up. Scovill innovations include extra-long-run coils; Fast-Feed wire packages; easy-to-handle bundling or boxing of rod and tube.

Any fabricator who has made Scovill a part of his competitive team knows that these are only a few examples of the down-to-earth help and service he can depend upon. Call in Scovill NOW . . . especially if you want to get ideas and help in selection of the BEST metal for an important new product.



SCOVILL MANUFACTURING COMPANY
Mill Products Division, 99 Mill St., Waterbury 20, Conn., Phone Plaza 4-1171



MADE IN USA

...and made better to bring out the **BEST** in your products

Products

Inexpensive Eye Protection for Visitors



A lightweight, all-plastic spectacle provides an inexpensive means of eye protection for visitors to industrial plants. Device offers wide area of coverage through clear or green shield-like single lens which covers both eyes. Each spectacle is packaged in individual cellophane envelope, at a cost less than one-quarter that of average safety spectacle.

American Optical Co., Southbridge, Mass.

Write No. 28 on Place Mark Card—Page 32

Washable Horsehide Work Gloves



Flesh split horsehide leather-palm work gloves are softer, more flexible and more comfortable than cowhide gloves. Horsehide will stand considerably more soaking and drying, and thus

(Please turn to page 108)

UTAH U. ROOTS FOR COTTON*

—has used it exclusively for 25 years



*Cotton toweling supplied to University of Utah by American Linen Supply Company, Salt Lake City.

• The University of Utah, Salt Lake City, boasts a student enrollment of almost 10,000. Its Medical School is one of the outstanding schools in the country. And its new Student Union Building is as modern as they come.

On this campus, cotton toweling is used exclusively in both faculty and student washrooms...and has been used for more than 25 years. The university administrators find that cotton toweling not only lowers maintenance costs and reduces storage space needed by 75%, but it eliminates plumbing problems and fire hazard caused by litter, makes for cleaner, neater washrooms.

Why not start these advantages working for you. For complete information, write for free booklet to Fairfax, Dept. S-8 111 West 40th Street, New York 18, N.Y.

Here's How Linen Supply Works...

You buy nothing! Your linen supply dealer furnishes everything at low service cost—cabinets, pickup and delivery, automatic supply of freshly laundered towels and uniforms. Quantities can be increased or decreased on short notice. Just look up LINEN SUPPLY or TOWEL SUPPLY in your classified telephone book.



Clean Cotton Towels . . .

Sure Sign of Good Management

Fairfax-Towels



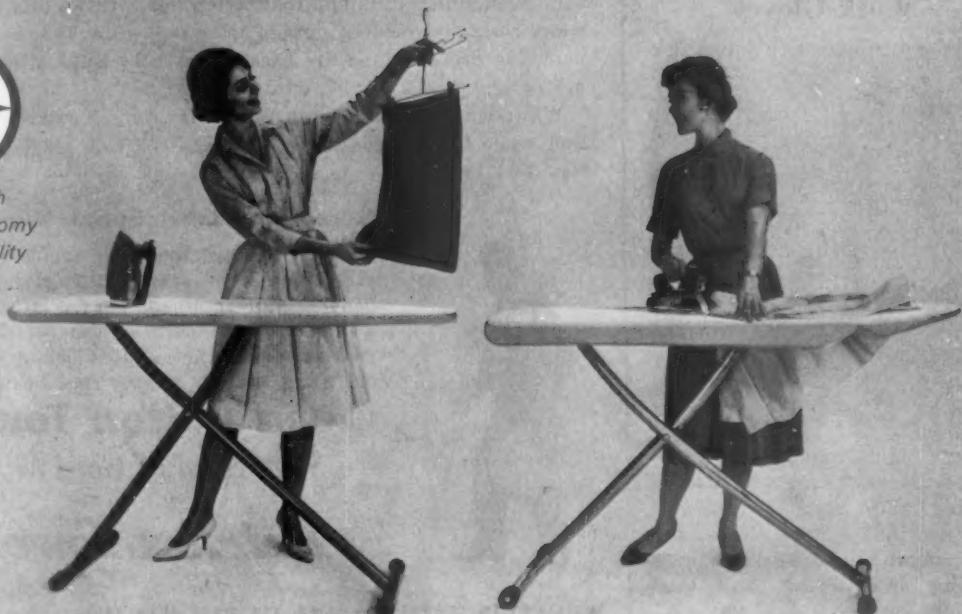
WELLINGTON SEARS COMPANY, 111 WEST 40TH STREET, NEW YORK 18, N.Y.
For More Information Write No. 217 on Place Mark Card—Page 32

For More Information about ad on following page
Write No. 218 on Place Mark Card—pg. 32—
105

Now 6 out of 7



*For strength
economy
versatility*



ironing "boards" are made of sheet steel



Just fifteen years ago, all but 15 per cent of ironing boards were made of wood. Today, it's the other way around: 6 out of 7 are made of strong, durable, inexpensive sheet steel, with features that could never be achieved with wood.

The "Mary Proctor Hi-Low Ironing Table" shown here is a good example. Its steel top is pleated for extra strength, with steam vents that channel heat away from the ironer's lap for cooler ironing. Sturdy tubular legs rolled from sheet steel are light in weight yet provide solid support.

Bethlehem furnishes large tonnages of cold-rolled steel to the Proctor-Silex Corporation, makers of the "Mary Proctor Hi-Low Ironing Table."

If you work with steel sheets—hot-rolled, cold-rolled, or galvanized—you can always count on Bethlehem sheets for completely dependable performance. Our engineers will be glad to discuss your sheet-steelworking problems with you.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM STEEL





SELECT-O-LOCK

**the fool-proof
self-locking wrench!**

Select-O-Lock is the new perfected Utica-quality wrench that locks in any position. All it takes is a flip of the thumb. Simple! Handy! Positive! Nothing to go wrong and affect use of the tool! And it is quality backed by famous full guarantee. Sizes range from 4" through 12". Parts are interchangeable with same size regular wrenches. For full information contact your Utica distributor or write for our new tool catalog.

**Utica Drop Forge & Tool Division,
Kelsey-Hayes Company, Utica 4, N. Y.**

tools the experts use!

For More Information Write No. 219 on Place Mark Card—Page 32

Products

(Continued from page 105)

withstand higher temperatures without shrinking. Improved, long-lasting cuffs are more washable and dry cleanable. **Riegel Textile Sales, 260 Madison Ave., New York 16, N. Y.**

Write No. 29 on Place Mark Card—Page 32

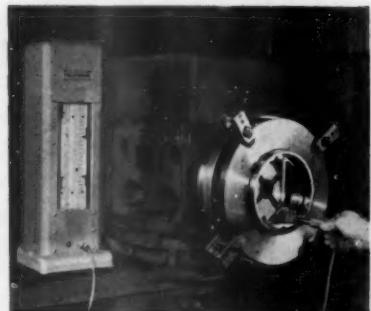
Quick Repair for Floor Cracks



A ready-to-use, finely ground plastic-based aggregate repairs cracks, expansion points, separations or shallow holes in concrete, asphalt and wood floor surfaces, interior or exterior. Clean cut defect with brush or broom, fill with repair material and tamp in. Material sets immediately and traffic can roll without delay. **Revere Chemical Corp., University Center Station, Cleveland 6, Ohio.**

Write No. 30 on Place Mark Card—Page 32

High-Accuracy Gage For Fine Tolerances



A high-accuracy gage combines low amplification long gaging range and high amplification

(Please turn to page 110)

For More Information about ad on facing page
Write No. 220 on Place Mark Card—pg. 32→

PURCHASING



"Amazing Demonstration of Wire Rope Pliability!"

ACCO'S NEW HI-PLI SLINGS HANDLE LIKE HEMP AND STRAIGHTEN OUT WHEN RELEASED

- So pliable it can be tied in knots
- It makes fast, easy work of any lifting job
- It combines the pliability of hemp with the strength of steel
- It's practically kink-proof—and completely free of crankiness
- HI-PLI slings last longer—can be used over and over again

Twist them, knot them, bend them—and HI-PLI slings always return to their original shape. This amazing pliability comes from ACCO's arrangement of six ropes laid around one. HI-PLI slings

also have ACCO's patented Dualoc endings which double-lock the sling ends. They stay clean and pleasant to handle, too—thanks to their durable Galacco finish which resists rust.

HI-PLI slings, like all ACCO slings, are registered safe. This means they have been factory proof-tested at twice load-carrying capacity before they are given an ACCO tag and certificate of registration.

Ask your distributor for HI-PLI slings

• Or write us at Wilkes-Barre, Pa., for our new Catalog 10 which describes our Hi-Pli, Strand-Laid and Braided slings.



HI-PLI

ACCO Registered® SLINGS

Wire Rope Sling Department • American Chain & Cable Company, Inc.

Atlanta, Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, Portland, Ore., San Francisco, Bridgeport, Conn. • In Canada: Dominion Chain Company, Ltd., Niagara Falls, Ontario



DODGE PRODUCTS

you
should
know



DODGE PILLOW BLOCKS with TIMKEN BEARINGS

America's Quality Pillow Blocks!



TAPER-LOCK STEEL CONVEYOR PULLEYS

Maximum strength with minimum weight!



DODGE TAKE-UPS

Complete range of stock models, sizes.



Write for Bulletins!

- ✓ Rolling Bearings—ratings, data.
- ✓ Conveyor Pulleys—technical data.
- ✓ Take-Ups—Roller, Ball, Babbitted.

DODGE MANUFACTURING CORPORATION
1300 Union Street • Mishawaka, Indiana

DODGE

of Mishawaka, Ind.

For More Information Write No. 221
on Place Mark Card—Page 32

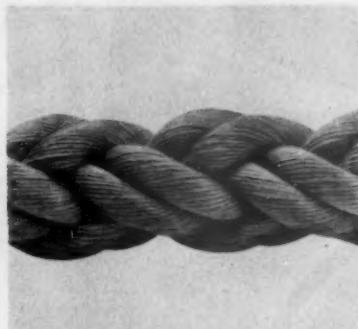
Products

(Continued from page 108)

close tolerance inspection in automatic sequence. Any time a measurement is made, the right hand column shows part size within the 18 thousandths range and the left hand column spreads the final two thousandths over four inches. Firm's existing 3 to 12 in. units can be modified to use precision gage. The Sheffield Corp., Subsidiary of Bendix Corp., Dayton 1, Ohio.

Write No. 31 on Place Mark Card—Page 32

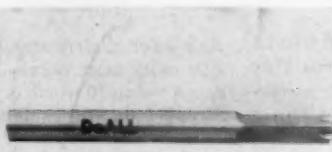
Long-Lasting, Anti-Kink “Plaited” Rope



A "plaited" manila rope which has exceptional anti-kink properties and long life is ideal for mooring and towing. Rope consists of four sections of two strands which are woven together. Extremely flexible and easy to splice, it is available in circumferences from 6 to 9 in. in lengths up to 120 fathoms and in 10 in. circumference in lengths up to 90 fathoms. Columbian Rope Co., Auburn, N. Y.

Write No. 32 on Place Mark Card—Page 32

Non-Carbide Drill For Hardened Steel

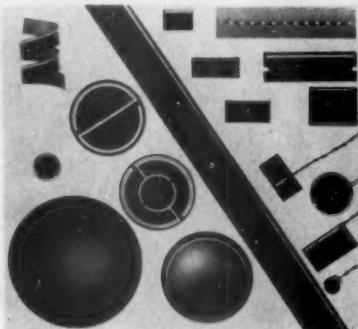


A drill for hardened steel that is not carbide yet can drill hardened steels 51 Rc and harder can

easily be resharpened or modified with an aluminum oxide wheel. Drill anneals material at drill point area as heavy pressure is applied. Drill generates intense heat, but heat is confined to small area adjacent to hole, and drill itself is not affected by heat except for slight rounding over the point which helps the heat generation. Size range is from $\frac{1}{8}$ in. through $\frac{3}{4}$ in., and in a set which includes sizes $\frac{3}{16}$ in., through $\frac{1}{2}$ in. by 16ths. Do-All Co., Des Plaines, Ill.

Write No. 33 on Place Mark Card—Page 32

Sensitive, Adaptable Photoelectric Cells

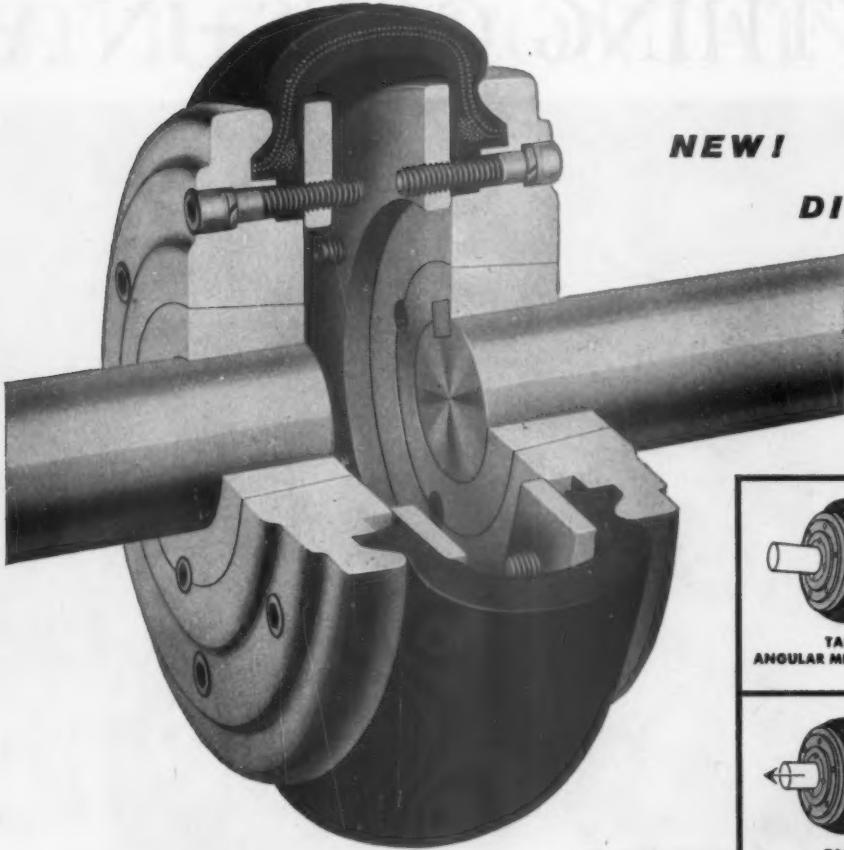


Type 5 photoelectric cells which are 50% more sensitive can be had in almost any shape or size. Manufacturing process permits fabrication of self-generating selenium cells in various spherical or cylindrical shapes or as flexible strips which can be twisted into a variety of spiral designs. Sizes range as small as $\frac{1}{16}$ in. sq. Daystrom, Inc., Weston Instruments Div., 614 Frelinghuysen Ave., Newark 12, N. J.

Write No. 34 on Place Mark Card—Page 32

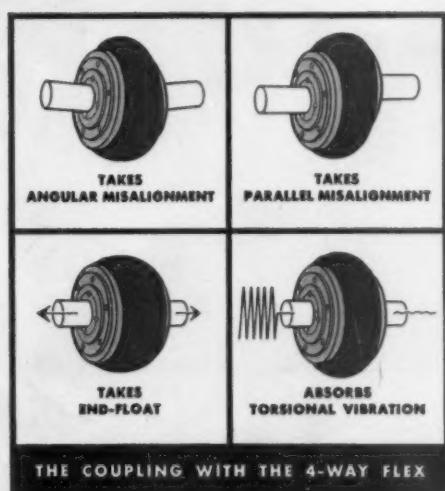


"Hold it, Medford! We only want suggestions from our employees!"



NEW!

DIFFERENT!



DODGE

Para·flex

FLEXIBLE CUSHION COUPLING

THIS coupling "swallows up" shaft misplacements. It automatically compensates for end-float, parallel misalignment, angular misalignment or any combination of all three. Moreover, it cushions the stresses of shock loads. And it absorbs torsional vibration—reducing noise and protecting machinery from vibration's destructive forces.

Here is a new type of performance—made possible by the development of a tire-like flexing element. Synthetic tension members, bonded together in rubber, give this element the stamina and dependability of modern, high-speed, high-load, shock-absorbing truck tires—and the ability to respond magically to all manner of changing shaft conditions.

Para-flex takes minimum space on the shaft. Mounting is simplified through the use of standard Taper-Lock bushings—no reborning, no machining. Safety is promoted by flush design; there are no protruding parts.

For More Information Write No. 222 on Place Mark Card—Page 32

parts. No lubrication is required, no periodic inspection. And since the flexible member is molded with a transverse split, it can be replaced without moving either the driver or driven machine.

Para-flex Couplings are stocked by Dodge Distributors in popular transmission sizes. They are available from factory stock in capacities up to 2000 hp at 1080 rpm. Call your distributor for a coupling to make your own test. You'll witness something revolutionary!

DODGE MANUFACTURING CORPORATION, 1300 Union, Mishawaka, Ind.

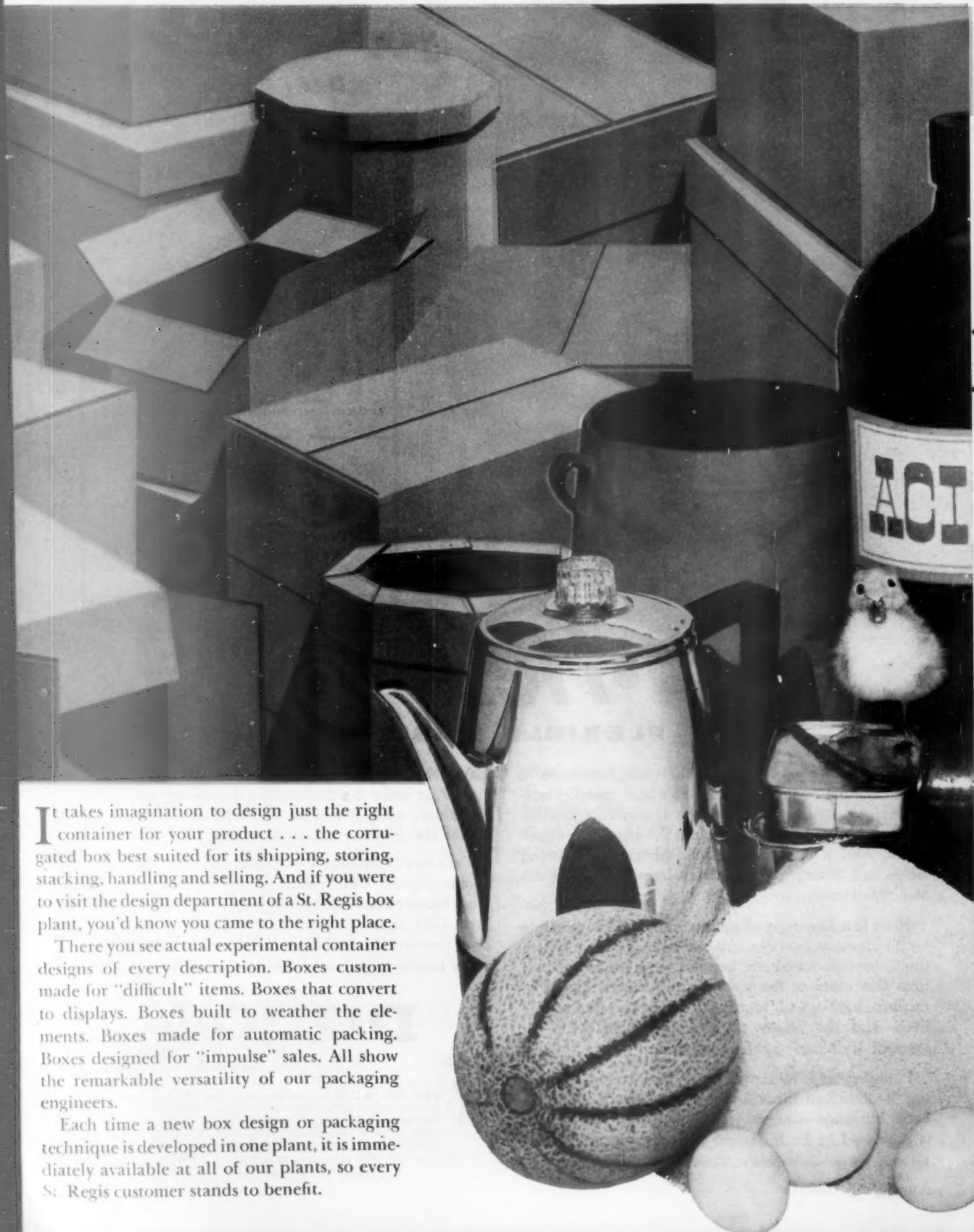
DODGE
of Mishawaka, Ind.



CALL THE TRANSMISSIONEER — your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look under "Dodge Transmissioneers" in the white pages of your telephone directory, or in the yellow pages under "Power Transmission Machinery."

For More Information about ad on following page
Write No. 223 on Place Mark Card—pg. 32→

ANYTHING GOES-IN A



It takes imagination to design just the right container for your product . . . the corrugated box best suited for its shipping, storing, stacking, handling and selling. And if you were to visit the design department of a St. Regis box plant, you'd know you came to the right place.

There you see actual experimental container designs of every description. Boxes custom-made for "difficult" items. Boxes that convert to displays. Boxes built to weather the elements. Boxes made for automatic packing. Boxes designed for "impulse" sales. All show the remarkable versatility of our packaging engineers.

Each time a new box design or packaging technique is developed in one plant, it is immediately available at all of our plants, so every St. Regis customer stands to benefit.

ST. REGIS® CONTAINER!



From a nationwide family of fine St. Regis corrugated plants, you'll gain in many ways: Well-seasoned, imaginative designers serve you on both local and national levels • Consistent quality is assured from St. Regis tree to St. Regis box • New packaging materials continually emerge from a fully staffed research department • And you'll enjoy working with the friendly, experienced people who are the St. Regis Container Division!

Anything goes . . . in a St. Regis container!

CONTAINER DIVISION

St. Regis 
PAPER COMPANY

150 EAST 42nd STREET, NEW YORK 17, N.Y.

PLANT LOCATIONS: Birmingham, Ala. • Fullerton, Calif. • Salinas, Calif. • Jacksonville, Fla. • Chicago, Ill. • Dubuque, Iowa • Hagerstown, Md. • Minneapolis, Minn. • Buffalo, N.Y. • Albany, N.Y. • Canton, Ohio • Cleveland, Ohio • Coshocton, Ohio • Newark, Ohio • Crafton, Pa. • Mt. Wolf, Pa. • Pittsburgh, Pa. • Dallas, Tex. • Garland, Tex. • Houston, Tex. • Tacoma, Wash. • Grafton, W. Va. • Milwaukee, Wis.



THERE'S A BETTER APPROACH TO PLANT MAINTENANCE OPERATIONS!

Seriously, many a shop is performing maintenance metalworking operations the hard way. Below are two suggestions to help break this bottleneck present in many a factory:

'BUFFALO' UNIVERSAL IRON WORKER — the all-in-one metal fabrication machine that cuts, punches, miters, shears, slits, copes and notches all standard metal shapes without changing tools — does all standard operations in the time and space usually required by 6 single-purpose machines. Write for Bulletin 322.

'BUFFALO' DRILLING MACHINES such as this well-known "RPMster" which adjusts so rapidly that it performs job drilling at production speeds.

1001 instantly adjustable spindle speeds mean real setup time savings on hundreds of varied jobs during an 8-hour shift. Quality 'Buffalo' ball bearing spindles mean accurate work. This machine — and a dozen other types of 'Buffalo' Drills — are paying their way in every type of production and maintenance drilling operation. Write for 'Buffalo' Bulletins covering the type of work you do. Remember — the P.A. has a major role in channeling money-saving ideas to all departments.



*See 'Buffalo' Machine Tools In Operation ...
MACHINE TOOL SHOW—Booth 551*

**MACHINE TOOL DIVISION
BUFFALO FORGE COMPANY**

Buffalo, New York
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.



*Buffalo air handling equipment to move, heat,
cool, dehumidify and clean air and other gases.*



*Buffalo Machine Tools to drill, punch, shear, bend, slit,
notch and cope for production or plant maintenance.*



*Buffalo Centrifugal Pumps to handle most liquids
and slurries under a variety of conditions.*



*Special machinery to process sugar cane, coffee and rice.
Special processing machinery for chemicals.*

For More Information Write No. 224 on Place Mark Card—Page 32

Products

King-Size Warning Light Protects Work Areas



A king-size warning light provides extra safety for emergency work areas during daylight hours. Finished in beacon yellow and available with either amber or red lenses, portable flasher can be used on warning mast type mounting that contains 9-volt hot-shot batteries or on an extensible metal tripod that raises flasher 11½ ft. above the ground. 8 in. parabolic reflector lens is equal in size to that of ordinary traffic signal, and transistorized circuit produces 1365 candle power at rate of 50 flashes per minute over a 130 hr. period. Weight is 12 lbs. without batteries. **R. E. Dietz Co., 225 Wilkinson St., Syracuse 1, N. Y.**

Write No. 35 on Place Mark Card—Page 32

Grooved Wheel Casters For Factory "Railroads"

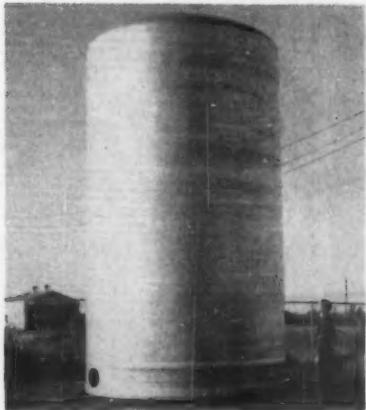


Double-duty "V" grooved, sealed bearing wheels which are designed to roll on floor surfaces

or tracks increase load mobility from 50 to 100%. When mounted on inverted angle iron track, wheels can be adapted to move from floor to track with the aid of "V" shaped lead ons, and around curves with curved channel guides or curved angle track. Various types of turntable switches provide for 90% position change. Constructed of reinforced steel, beveled groove wheels come in sizes from 4 to 10 in. Depending on wheel size, 2 x 2 in. or 1½ x 1½ in. angle iron track is adaptable, mounted on ½ in. x 5 in. base plate that is fastened to the floor. Colson Corp., 7 S. Dearborn St., Chicago, Ill.

Write No. 36 on Place Mark Card—Page 32

Corrosion-Resistant, Lightweight Tanks



Lightweight, corrosion-resistant tanks and containers of Poxyglas are intended for the storage, transportation and distribution of corrosive materials. They are available in sizes up to 12 ft in diameter—limited only by transportation restrictions. Poxyglas is produced by patented process of combining glass-fiber rovings and thermo-setting epoxy resins in a precision winding pattern. Non-toxic, odorless properties make it ideal for food processing, soap manufacturing, agricultural storage, etc. With 70% glass fiber content, Poxyglas does not have "creep" or "wicking action" properties sometimes found in molded plastic products. Black, Sivalls & Bryson, Inc., 7500 E. 12th St., Kansas City 26, Mo.

Write No. 37 on Place Mark Card—Page 32



THERE'S A BETTER APPROACH TO PLANT VENTILATION!

Yes, there are still plant areas getting along on makeshift ventilation. Money is being "saved" on ventilation — while production lags for the lack of it. Here are two suggestions for a better approach to this serious question:

'BUFFALO' ROOF VENTILATION is the most economical and practical answer where you have large areas that need exhaust. Here is general ventilation with quality package units that are economically installed and require virtually no maintenance. Proved in the biggest plants in the country! Write for complete details in Bulletin 2345, and check your recommendations with your Engineering Department — see if they don't agree with you!

'BUFFALO' MAKEUP AIR is another of today's important considerations. Enormous volumes of filtered, tempered air are required to make up the loss of exhausted air.

'Buffalo' offers a number of job-suited units for this application — ceiling units, mounted under 'Buffalo' Roof Exhausters, Heating and Ventilating Units, Direct Fired Makeup Air Units, PC Cabinets connected thru outside walls, and a variety of 'Buffalo' Fans. Write us about your requirements. The 'Buffalo' Engineering Department will be happy to make recommendations that will answer your problem at the lowest overall cost. Write today!



AIR HANDLING DIVISION

BUFFALO FORCE COMPANY

Buffalo, New York
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.



Buffalo air handling equipment to move, heat,
cool, dehumidify and clean air and other gases.



Buffalo Centrifugal Pump is handle most liquids
and slurries under a variety of conditions.



Sugar machinery to process sugar cane, coffee and rice.
Special processing machinery for chemicals.

For More Information Write No. 225 on Place Mark Card—Page 32

For More Information about ad on following page
Write No. 226 on Place Mark Card—pg. 32→

FROM **CRUCIBLE** LOCAL STEEL CENTERS*



KEY MEN AT CRUCIBLE LOCAL STEEL CENTERS — the inside account salesman, sales-service engineer, and field metallurgist — help surmount problems of purchasing, metalworking and materials selection.



CUTTING LOW ALLOY PLATE BY FLAME is performed at major Crucible steel centers. At others, flame-cutting to your specs is easily arranged.



CRUCIBLE ACCOMMODATION SERVICES can help you by arranging for "extras" such as slitting, forging, buffing, polishing — whatever you need.



INVENTORY CONTROLLERS MAINTAIN HIGH STOCK LEVELS to meet customers' maximum needs. Average Crucible steel center stocks 16,000 specialty steel items.

SPECIALIZED SKILLS

Specialists at integrated Crucible steel centers perform vital services for your buyers, engineers and production personnel.

A wide range of problems is surmounted daily with the help of local Crucible specialists. For example:

The inside account salesmen continually help buyers simplify purchasing details. They know the steels their customers use, the quantities needed and processing requirements. They make buying specialty steels easier and more economical for you.

Sales-service engineers help production personnel cut through fabrication problems. Their experience in both steelmaking and metalworking makes specialty steels easier to use. Most Crucible steel centers are staffed by specialists in alloy steels, stainless, tool steels.

Field metallurgists work with customers' engineers on materials evaluation and selection. They can give you unbiased recommendations on metals for almost any job or part. And you get immediate assistance because there's a field metallurgist located in every region.

Behind these men are other Crucible specialists — inventory controllers, draftsmen, saw men, warehousemen, tele-type operators — whose skills also make specialty steels more economical for you. Combined, they offer you a local steel service that is unusual because of its depth. *Crucible Steel Company of America, Department PH13, Pittsburgh 30, Pennsylvania.*



MONTHLY STOCK LIST gives you up-to-date news on local stocks of specialty steels. Ask the Crucible salesman to put your name on the mailing list.

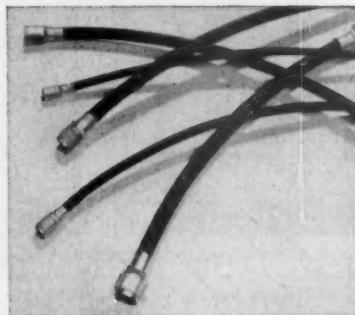
***FROM CRUCIBLE LOCAL STEEL CENTERS:** TOOL STEELS — Water, oil, air hardening, shock resisting, hot work, plastic and die casting steels in all forms, including bars, sheets, plates, drill rod, hollow bars, forgings and flat ground stocks • HIGH SPEED STEELS — Crucible's famous "Rex"® steels: Rex Thrift Finish rounds, hot rolled and cold drawn flats and squares, drill rod, forgings, sheets, plates, and tool bits • STAINLESS STEELS — Bars, sheet, strip, wire, cold heading wire, metalizing wire, plates, angles • FREE MACHINING STEELS — Crucible Max-el® rounds, hexagons, plates and brake die steel • ALLOY STEELS — Bars, billets, strip and sheet • COLD ROLLED CARBON SPRING STEELS • DRILL STEELS — Hollow and solid drill steels • ALUMINUM EXTRUSION DIE STEELS • HOLLOW TOOL STEEL • HARD FACING ROD • PLASTIC MOLD STEELS • PERMANENT MAGNETS • and many others.

CRUCIBLE STEEL COMPANY OF AMERICA

BRANCH OFFICES AND STEEL CENTERS: Atlanta • Baltimore • Boston • Buffalo • Caldwell, N.J. • Charlotte • Chicago • Cincinnati • Cleveland • Columbus • Dallas • Dayton • Denver • Detroit • Erie, Pa. • Grand Rapids • Houston • Indianapolis • Los Angeles • Miami • Milwaukee • Minneapolis • New Haven • New York • Philadelphia • Pittsburgh • Portland, Ore. • Providence • Rockford • Salt Lake City • San Francisco • Seattle • Springfield, Mass. • St. Louis • E. Syracuse • Tampa • Toledo • Tulsa

NOW

**GET BOTH FROM
ONE DEPENDABLE
SOURCE!**



NYLAFLOW® Pressure Tubing and Hose

NYLAFLOW Flexible Pressure Hose—a new, all-synthetic polyamide tube reinforced with high tensile yarn and abrasion resistant cover*—or NYLAFLOW Pressure Tubing! Both are now available from the same dependable source.

New NYLAFLOW Pressure Hose weighs only $\frac{1}{5}$ as much as rubber of equivalent burst strength . . . and has exceptional resistance to flex and vibrational fatigue.

Unaffected by flammable and non-flammable hydraulic fluids, hydrazine and other rocket fuels, with excellent resistance to caustics and most organic solvents. Freon permeability is approximately 1/10 that of rubber hose. Excellent non-conductor for use around high voltage lines.

Odorless, non-toxic, non-corrosive, fungus resistant and will not embrittle in storage. Temperature range (-65°F. to +250°F.). Form stable and can be permanently heat-formed to small, stress-free bend radii.

Burst pressure ratings of 5000 and 8000 psi.; available in long continuous lengths in standard diameters up to $\frac{1}{2}$ ". Compact, light-weight, reusable fittings and assemblies also available.

NYLAFLOW Pressure Tubing in sizes up to $\frac{3}{8}$ " O.D., with burst pressure ratings of 1000 and 2500 psi., is ideal for lower pressure requirements. It is flexible for easy installation and can be attached with standard flare or compression fittings designed for metallic tubing.

*Patents applied for



INDUSTRIAL PLASTICS

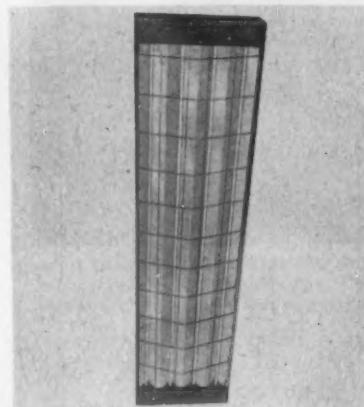
The Polymer Corporation of Pennsylvania

Reading, Pa.

For More Information Write No. 227 on Place Mark Card—Page 32

Products

**Quartz Tube
Radiant Heat Panel**



An electric radiant heat panel which is equipped with quartz tube elements is intended for commercial and industrial applications, including process heating, paint baking, and indoor and outdoor spot comfort heating. Easily installed compact units are 1 x 4 ft. Four and six kilowatt panels are available for 208 and 240 volts, while 240 volt elements may be connected in series for operation on 480 volts. When large areas are involved, they may be mounted horizontally at any angle, end to end, and edge to edge on $\frac{1}{2}$ in. conduit stems, as well as on metal framework for which spot-weld nuts are provided. **Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa.**

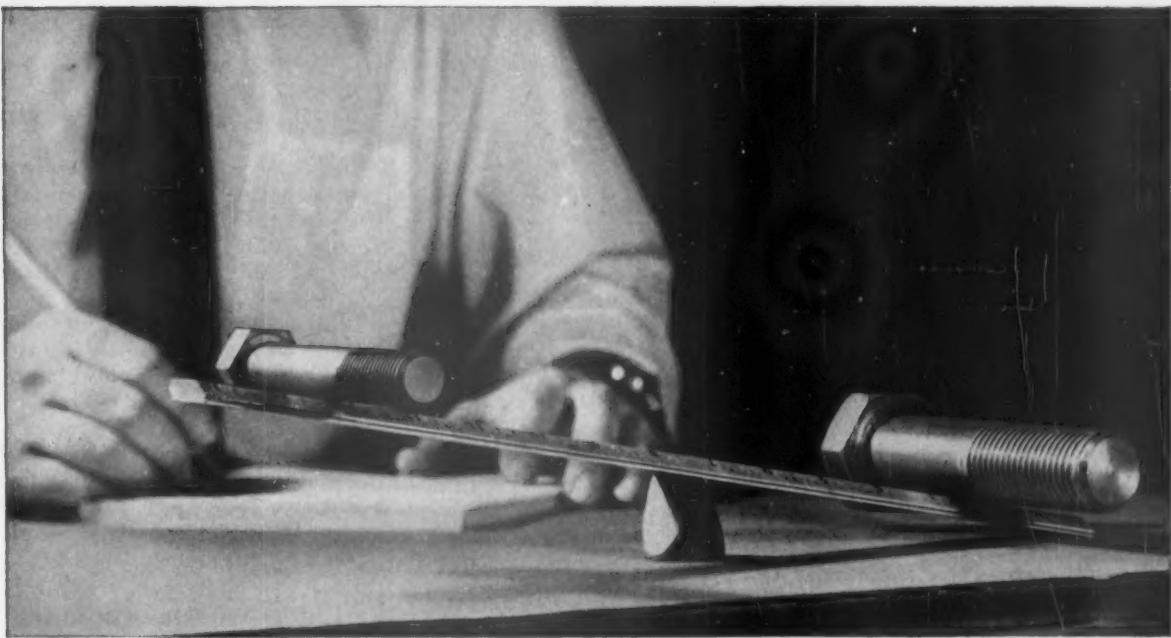
Write No. 38 on Place Mark Card—Page 32

**Air-Powered Wrench Has
High Power-Weight Ratio**



An improved reversible impact wrench has a high power-to-weight ratio.

(Please turn to page 120)



Weighs a 64% cost reduction



Fastener survey by RB&W seeks to deliver maximum holding power per fastener-dollar ... makes possible substantial savings

Since the job of a standard fastener is mainly to hold an assembly together, its "clamping force" is what you really want. You can reduce costs by applying this fact and buying fasteners by their *holding power* rather than size.

For example, compare SAE "proof load" and cost ratios of four different hex screws of standard sizes.

Almost unbelievable. The smallest—the heat treated RB&W High Strength Hex Screw—exceeds all the others in load capacity, can usually be used instead of any of them. But, since it's smallest and weighs less, it also costs you less. 64% less than the 1½" Grade 2 screw; 58% less than the 1⅓", etc. And because holes can be made smaller, you save on production, too.

Want to get the most from *your* fastener dollars? Let a specialist who best knows the subject of fasteners contribute his knowledge to that of your engineers. Contact Russell, Burdsall & Ward Bolt and Nut Company, Port Chester, N. Y.

Grade	SAE Grade 5	SAE Grade 2	SAE Grade 2	SAE Grade 2
Size	¾ x 5"	1 x 5"	1½ x 5"	1¼ x 5"
Proof load (lbs.)	28,400	16,950	21,350	27,100
Cost Ratio	100%	100%	239%	277%



Plants at: Port Chester, N. Y.; Coraopolis, Pa.; Rock Falls, Ill.; Los Angeles, Calif. Additional sales offices at: Ardmore (Phila.), Pa.; Pittsburgh; Detroit; Chicago; Dallas; San Francisco. Sales agents at: Cleveland; Milwaukee; New Orleans; Denver, Fargo. Distributors from coast to coast.



ARE MOLDED PARTS GIVING YOU HEADACHES?

Why not investigate glass parts by Lancaster? Glass resists heat, abrasion and weathering . . . glass is chemically stable, non-combustible and has great dielectric strength. More good news: Lancaster supports your new product program from the blueprint stage to final production with outstanding engineering and manufacturing facilities. Call OLive 3-0311 or write **LANCaster GLASS CORPORATION, LANCASTER 4, OHIO.**



For More Information Write No. 229 on Place Mark Card—Page 32

Products

(Continued from page 118)

weight ratio. Standard $\frac{3}{8}$ in. model weighing $4\frac{1}{4}$ lbs. has output equal to air wrenches weighing 6 lbs or more. Air-powered wrench permits rapid tightening of threaded fasteners to high torques with maximum comfort. Three-lug impacting mechanism provides three impacts per revolution and evenly distributes impacting force over three wear surfaces, providing longer life. Wrench is 8 in. long with $\frac{1}{2}$ in. sq. drive and has 2500 rpm rundown speed. $\frac{1}{4}$ in. ID hose and 90-100 psi are recommended. **Buckeye Tools Corp., 5003 Springboro Pike, Dayton, Ohio.**

Write No. 39 on Place Mark Card—Page 32

Light Asbestos Clothing Gives Extra Protection



Asbestos safety clothing of specially woven fabric will shed molten metal at 3000 degrees F., without deterioration, loss of resiliency or discoloration of inner side. Material reflects approximately 50% of radiant heat, is very light in weight yet has nearly double the tensile strength of fabrics twice its weight and thickness. Garments are recommended for applications involving exposure to glass, chemicals, ceramics and oils, as well as for protection from high heat and metal splash. Coats, leggings, cape sleeves, coveralls, sleevelets, spats, pants, and aprons—all in white or yellow. **American Optical Co., Southbridge, Mass.**

Write No. 40 on Place Mark Card—Page 32

For More Information about ad on facing page

Write No. 230 on Place Mark Card—pg. 32→

PURCHASING



STEEL BAR

STEEL bar is a white hot stream of molten metal shooting from a furnace. A steel billet squeezed by giant rollers to precise shapes. Youngstown hot rolls and cold draws rounds, squares, flats and hexes . . . angles, channels, tees and zees, Youngstown special quality bar to specifications. And, when strength with ease of machinability are desired, choose Yolead leaded steel. Over 800 different kinds of carbon, alloy and Yoloy steel bar products come from Youngstown, a growing force in steel.

YOUNGSTOWN STEEL bar is the axle shaft on your car. A nut. A bolt. A staple. It is a polished hydraulic lifting arm, a pin in a tractor tread. It is a mat of reinforcing bars. A length of wire rope. From mine to open hearth to bar mill cut lengths and coils. Youngstown steel bar is tested, retested and delivered to you on time. You can get it from your steel warehouse or through 28 Youngstown Offices. Whatever your needs for quality bar, rod and wire, depend on Youngstown, a growing force in steel.



Youngstown - growing force in steel



THE YOUNGSTOWN SHEET AND TUBE COMPANY, YOUNGSTOWN, OHIO. ATLANTA BOSTON BUFFALO CHICAGO CINCINNATI CLEVELAND COLUMBUS DALLAS DENVER DES MOINES DETROIT GRAND RAPIDS
HOUSTON INDIANAPOLIS KANSAS CITY LOS ANGELES MILWAUKEE MINNEAPOLIS NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH ST. LOUIS SAN FRANCISCO SEATTLE TULSA WASHINGTON



PUT A

ON YOUR FASTENING PROBLEMS!

If slow-downs in assembly operations are jinxing your production schedules, you can be sure they aren't caused by "voodoo"! But what about the fasteners you are using? If they are not accurate and uniform, they can cause costly bottlenecks.

Fischer helps solve fastening problems by supplying precision turned brass and aluminum nuts . . . standards, specials, odd sizes or shapes and miniatures . . . to meet individual needs. And to assure reliable performance, all Fischer turned nuts are produced to closer tolerances than required by American Standard B18.2-1955 specifications. Fischer also specializes in dependable "on schedule" deliveries and competitive pricing. That's why **FISCHER** is your best source for precision nuts.



FOR DETAILS, SPECIFICATIONS
AND PRICES . . . WRITE FOR
CATALOG FS-1000.

Fischer Special Mfg. Co. 471 Morgan Street Cincinnati 6, Ohio	
Please send Catalog FS-1000 and price lists for Fischer Turned Nuts.	
NAME _____	TITLE _____
COMPANY _____	
STREET _____	
CITY _____ ZONE _____ STATE _____	

8625-F3

there's no premium for precision at

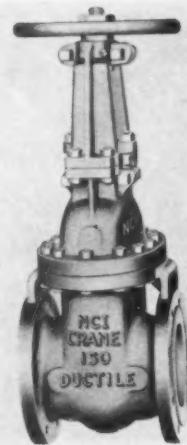
Fischer

FISCHER SPECIAL MFG. CO.

For More Information Write No. 231 on Place Mark Card—Page 32

Products

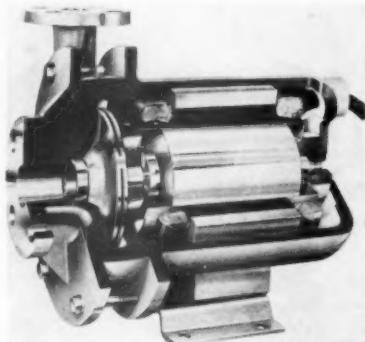
Ductile Iron Gate Valves Resist Shock, Heat



A line of iron gate valves lowers costs on many applications. Ductile iron gate valves are three times as strong as gray cast iron, nearly as strong as carbon steel, yet lower in price. Valves of modular or spheroidal cast iron content have higher thermal shock resistance than ordinary gray cast iron and are ideal for service on sour crude and other process lines in refineries and tank farms. Available in sizes from 2 through 12 in., and recommended for oil services at temperatures from minus 20 degrees F to 650 degrees F. Crane Co., 836 So. Michigan Ave., Chicago 5, Ill.

Write No. 41 on Place Mark Card—Page 32

Line of Leak-Proof Canned Pumps



A line of leak-proof canned pumps is designed for handling

(Please turn to page 124)

For More Information about ad on facing page
Write No. 232 on Place Mark Card—pg. 32→
PURCHASING

You can do more with

DELTA



No matter how you look at it...

DELTA PRICES ARE RIGHT

Look at price alone—you'll find that Delta Industrial Tools are competitive with anything in their class. Then compare price with built-in value that means low, low maintenance and less downtime—you'll find that Delta Tools *cost less to use* than any other tools you can buy.

Now, to price and quality, add the fact that Delta makes the most complete line of metalworking and woodworking tools in the world—for production, for maintenance, for crating and shipping. And remem-

ber that Delta quality and Delta economy—plus fast, dependable service—are yours through fine industrial distributors in your area. Look in the Yellow Pages under "TOOLS" or "MACHINERY."

No matter how you look at it—in lowering costs, in cutting downtime, in simplifying inventory—you can do more with Delta because Delta does so much more for you. Why not standardize on genuine Delta Industrial Tools and money-saving accessories throughout your plant?



FOR YOUR FILES—catalog of the world's most complete line of industrial tools—pictures and describes 61 machines, 302 models, over 1400 accessories. For free copy, write: Rockwell Manufacturing Co., Delta Power Tool Division, 7284 N. Lexington Ave., Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Co. of Canada, Ltd., Guelph, Ontario.

DELTA INDUSTRIAL TOOLS

another fine product by

ROCKWELL





**in a series of washroom survey comments
from "SBS soap counselors"**

*We showed them
how "waterless" skin
cleanser cuts
wash-up costs!*



James J. Hosking

is a SBS soap counselor in the Great Lakes area. A specialist in industrial soaps for several years, he has pinpointed economical solutions to skin hygiene and wash-up problems for many plants. Here's a typical example:

"Workers in this Midwestern chemical plant come in daily contact with hard-to-remove, irritating soils — like carbon, caustic soda, salt brine, alkalines, greases, metal filings and cutting oils. Special clothing and gloves offered only partial protection. We found many workmen scrubbing their hands in harmful solvents . . . and making far too many time-consuming trips to the washrooms. I showed management how easily it can discourage the use of injurious solvents and *pick-up lost production time* by putting our SBS 30 Waterless Skin Cleanser at each worker's fingertips. A pleasant cream, SBS 30 cleans without water, quickly and easily removes stubborn, irritating soils . . . puts an end to many costly trips to washrooms."



Money-saving suggestions like this begin with OPERATION PINPOINT—a thought-provoking presentation filled with facts about skin hygiene and washroom maintenance. The SBS soap counselor serving your area can pinpoint the right soap to do every skin cleansing job best and at lowest cost in your plant. Let him show you OPERATION PINPOINT . . . just call your nearest SBS office, collect.

the washword of industry

SBS
sugar beet products co.

SAGINAW, MICH. • Los Angeles, Calif. • Newark, N.J.
CANADA: Chemical By-Products, Ltd., Toronto, Ontario



For More Information Write No. 233 on Place Mark Card—Page 32

Products

(Continued from page 122)

dangerous or expensive fluids. Unit is completely self-contained motor-pump in which the material being handled circulates within the motor. Pump impeller is connected directly to motor shaft. Seals, packing and stuffing box are not required, and pump is completely leak-proof. Motor rotor and field are encased in stainless steel cans. Designed for all-angle installation, pump is well suited for use in close quarters. Available in $\frac{1}{2}$, $\frac{3}{4}$ and 1 hp ratings with capacities to 63 gals. per minute. **Moyno Pump Div., Robbins & Myers, Inc., Springfield, Ohio.**

Write No. 42 on Place Mark Card—Page 32

Bench Size Pneumatic Code Marking Unit

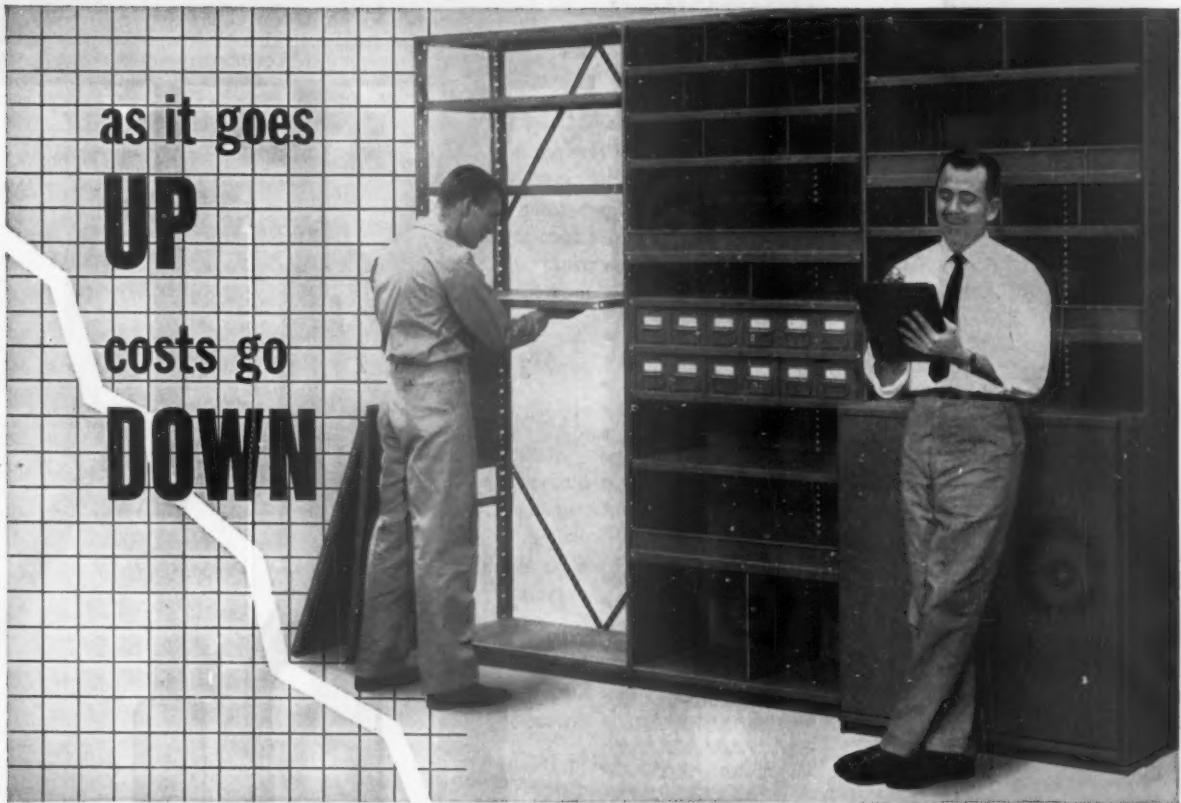


A small code marking (cold) bench unit places letters, numbers, symbols or other code markings on items that require an "unnoticeable" identification marking after manufacture. It consists of a base, a cast "U" shaped frame with upright to carry pneumatic equipment, and includes an interchangeable die holder and fixed holder for product being marked. Intended for code marking plastic, wood, metal and fiber products or parts, unit is approximately 6 in. wide x 12 in. high overall x 10 in. deep. **Acromark Co., 384 Morrell St., Elizabeth, N. J.**

Write No. 43 on Place Mark Card—Page 32

**FOR PLACE MARK
CARD TURN TO
PAGE 32**

HALLOWELL ERECTOMATIC® SHELVING



SAVES up to 40%
in erecting costs

Erectomatic goes up faster than any other shelving. Saves as much as 40% in man-hours!

SAVES up to 20%
in floor space

Individually adjustable shelves eliminate waste space between shelves where size of loads vary. You can store more in less floor space.

SAVES TIME
for years to come

Shelves can be repositioned in only seconds, anytime . . . without lifting or unloading!

WHAT'S MORE, straight-in, straight-out shelf changing makes Erectomatic the most adaptable storage system you can find. Erectomatic shelves are individually adjustable (without tools) to changing size loads. Waste air space is eliminated. For color-coded storage, Erectomatic is available in a wide range of baked on enamel finishes.

Get the full story . . . write for the FREE Hallowell Erectomatic Catalog today.

COLUMBIA-HALLOWELL Division **SPS**
JENKINTOWN 31, PA. • SPS WESTERN, SANTA ANA, CAL.

where reliability replaces probability

For More Information Write No. 204 on Place Mark Card—Page 32

AUGUST 15, 1960

Mail coupon
for FREE
catalog today!

COLUMBIA-HALLOWELL Division SPS
Jenkintown 31, Pa.
Please send me the Hallowell Erectomatic catalog.

Name.....
(Please Print)

Company.....

Address.....

City..... Zone..... State.....

2257,2491

For More Information about ad on following page
Write No. 234 on Place Mark Card—pg. 32→
125



Between

1

2

3

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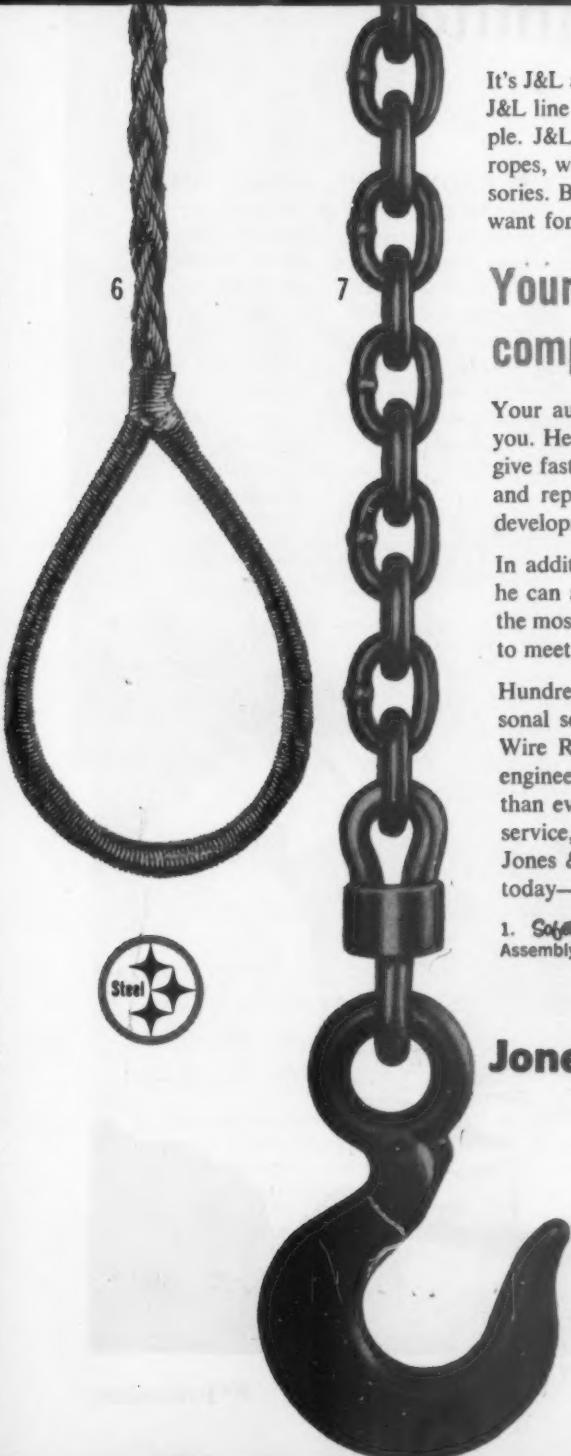
5



the hook and the load...it's J&L

6

7



It's J&L all the way between the hook and the load, because the complete J&L line covers every lifting need. The illustrations here are only a sample. J&L hand and power hoists are not shown. Nor many other wire ropes, wire rope slings, alloy chain slings, fittings, assemblies and accessories. But, illustrated or not, you'll find in the J&L line everything you want for all your lifting jobs.

Your J&L industrial distributor has the complete lifting line for complete safety

Your authorized J&L Wire Rope Distributor is fully equipped to help you. He can provide you with any item from this complete line and can give fast service, too—right down to securing *while-you-wait* fabrication and repair of alloy chain slings with JalLink (another exclusive J&L development).

In addition, if you are faced with an unusually tough lifting operation, he can arrange for skilled J&L engineers to help you. They'll advise on the most suitable method—or even design a lifting mechanism specifically to meet your problem.

Hundreds of J&L Distributors give you all the advantages of local, personal service, *plus* the delivery back-up of 15 strategically placed J&L Wire Rope Service Centers, *plus* the applications help of J&L factory engineers. When you select from the complete J&L line, you get more than everything you need between the hook and the load. You also get service, safety and confidence in lifting—because it's J&L. Call your Jones & Laughlin Wire Rope Service Center or Wire Rope Distributor today—they're listed in the yellow pages.

1. Safety-Wave Nylon Sling.
2. Woven Wire Belting.
3. Manila Cordage.
4. Swaged Assembly with Fork Eye.
5. JalKlamp Bridle Sling.
6. Braided Sling.
7. Alloy Chain Sling.

FOR SAFETY IN LIFTING

Jones & Laughlin Steel Corporation

WIRE ROPE DIVISION-Muncy, Pennsylvania



Transparencies For Projection Made In Minutes

By James LeMay



STEP 1—Original copy is placed face-up on the exposure stage of the unit. A sheet of negative paper is removed from its light-tight package and placed on top of the original. The top is closed. The negative paper can be handled in a normally lighted room, but care should be taken that it is not pre-exposed. When copying a bound book or large bulky material, the top is held by hand to provide pressure during the exposure period. Average exposure time is 25 seconds.

STEP 2—The exposed negative is placed in contact with a sheet of positive, transparent film. This positive film is not sensitive to light. The film is fed into the bottom slot simultaneously with the exposed negative in the top slot. The processed negative and positive are returned in tight contact. After a 20 second wait while the transfer takes place, the two sheets can be peeled apart.

READY-MADE visuals that can be projected for fast and perceptive group communication may now be applied to many purchasing agent presentations. Preparation time has been reduced to a few minutes.

Every purchasing agent sees valuable drawings, charts, and illustrations in pamphlets, textbooks, and magazines. These are splendid sources of communication.

(Turn Page)

Mr. LeMay is a member of the Audio Visual Department, Ozalid Division, General Aniline & Film Corp.





Get copies you can do things with!

Verifax copies are delivered dry, complete, and on bond-type paper.

Need copies for your own use . . . or to pass on to someone else to use? Such copies are most usable by all concerned when they look and feel like good letterheads . . . are as easy to read, handle, file, mail or write on . . . and are as accurate and as lasting as the original. Reason enough, therefore, to want Verifax copies!

See how your secretary can whisk out 5 Verifax copies in 1 minute for 2½¢ each. Phone local Verifax dealer (see Yellow Pages under duplicating or photocopying machines), or write Eastman Kodak Company, Business Photo Methods Division, Rochester 4, N. Y., for booklet describing all Verifax copier models.

Prices quoted are manufacturer's suggested prices and are subject to change without notice.

VERIFAX BANTAM COPIER
Model A
shown above **\$99.50**
ONLY
Other models to \$425

Verifax Copying DOES MORE...COSTS LESS...MISSES NOTHING

Kodak
TRADE MARK

For More Information Write No. 235 on Place Mark Card—Page 32

Office Equipment

(Continued from page 128)

tion aids. But they are usually too small for effective display before groups.

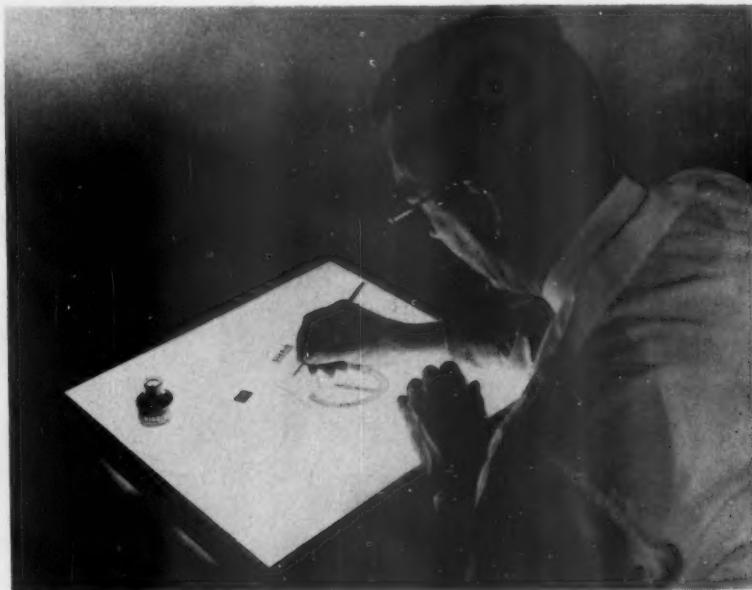
However, overhead projection offers the opportunity to enlarge even the smallest chart to a size capable of communicating meaning to a large group of people.

Recent developments in photography have produced a negative-to-positive photographic reflex process which requires no camera or darkroom. Called "diffusion transfer," the process produces transparencies in a few minutes from any original copy.

Reproduction is possible whether the original material is opaque, has writing on both sides, is bound in a book, or is mounted on a wall.

The accompanying illustrations give a step-by-step demonstration of the procedure.

STEP 3—(Optional) Additional lines and arrows showing relationships, trends, or underlining of key words can be helpful on the transparency. Grease pencils, film-marking pencils, felt-tip marking pens, and capillary action pens can be used. It is also possible to type on the transparency using carbon paper to provide a dark image. To mount the transparency, almost any opaque material—such as cardboard, heavyweight paper, or file folders—will work. A section cut out of the middle serves as the aperture.



STEP 4—The projected image is behind and over the head of the speaker or in front and above the speaker (reflected from a mirror as shown here) when used for rear screen projection. The transparent visual is placed on a horizontal stage on top of a light source; the light passes vertically through the transparency and is reflected at an angle on the screen in back of the speaker. The overhead projector can be used in a lighted room. It is located in front of a group and the user may employ it extemporaneously while facing the audience.

Thousands of firms are profiting from this versatile telephone!



Available in an 18-button executive model (shown) and a 30-button secretarial model...both in green, gray or beige.

It's THE CALL DIRECTOR telephone

We're getting high praise for it from business firms all over the country. It's boosting operating efficiency—at low cost—wherever it is being used.

Efficiency is the Call Director's strong suit. Its versatile pushbuttons put as many as 29 outside, extension or intercom lines right at your fingertips. With Bell System intercom, it gives you interoffice connections in an instant. It permits six-way telephone conferences. It lets you add others to calls on your line and hold calls on several lines at

once if you wish. You just push a button—or dial.

The effect it has on productivity and profits will delight you!

ONLY ONE EXAMPLE

The Call Director is only one example of new Bell System equipment now available to serve you profitably. Why not learn about all these new developments? Just call your Bell Telephone business office and a representative will visit you at your convenience. No obligation, of course.

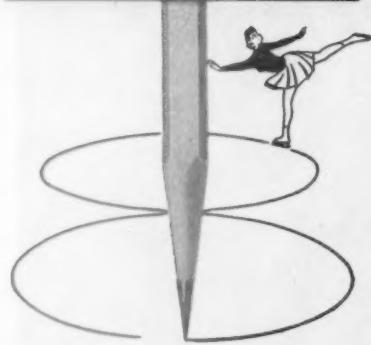


BELL TELEPHONE SYSTEM

For More Information Write No. 236 on Place Mark Card—Page 32

TRY THE WORLD'S Smoothest Writing PENCIL FREE!

and discover 3 Good Business Reasons Why GENERAL'S New SEMI-HEX Lanolin Lead Office Pencil MUST SAVE YOU MONEY!



1 Superb Writing Ease. SEMI-HEX won't scratch, stick—even on cardboard! The new SEMI-HEX just glides along with a strong dark line. Laboratory tests prove that General's special Lanolin Process Lead makes it the smoothest writing pencil ever! And smooth writing helps prevent writer's cramp, finger stiffness—keeps office efficiency at its peak!

2 Stronger, Longer-lasting Points! General's exclusive Carbo-Weld Process makes SEMI-HEX points virtually "Break-proof." No office time wasted sharpening and resharpening pencils.

3 Guaranteed Longer-Wearing! The new SEMI-HEX is unconditionally guaranteed to outlast, outrite and outperform ordinary office pencils. Stocks last long time—keep inventory down!

Available in 5 degrees: 1, 2, 2-2/4, 3 and 4. See Your Local Dealer Now—Or Write Us On Your Company Letterhead for FREE SAMPLES.

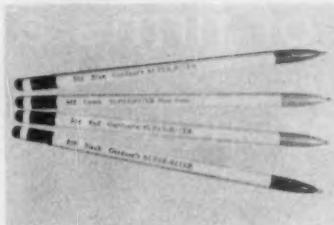
GENERAL
PENCIL COMPANY 

60 FLEET STREET, JERSEY CITY 6, N.J.

For More Information Write No. 237
on Place Mark Card—Page 32

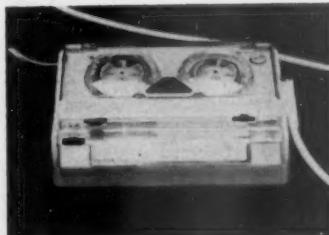
132

Office Equipment



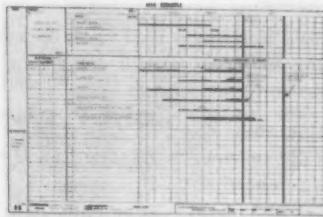
Desk pens for departments requiring a steady, fine, even line were recently introduced by Gardner Stamp Co., 166 South Washington St., Wilkes-Barre, Pa. The new pen has a thin ball point and is used for record cards, charts and figure work. It comes in four colors: blue, green, red and black. Tests have shown the ink is satisfactory after minimum two years normal shelf storage.

Write No. 44 on Place Mark Card—Page 32



Low-priced tape dictating and transcribing machine was announced by Edison Voicewriter Division of McGraw-Edison Company. The new machine features an exclusive built-in indexing system. It is equipped with a 90-minute tape and has controls for fast forward and fast back.

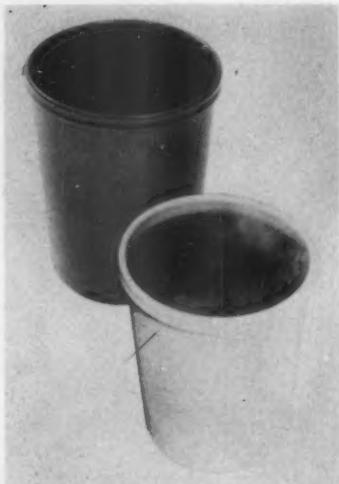
Write No. 45 on Place Mark Card—Page 32



Method for setting up and maintaining schedules has been developed by one large manufacturer with the use of pressure sensitive tapes. Details are typed on a vellum form and the period is indicated by lengths of solid and

patterns. Prints are prepared from the original through an Ozalid machine. Changes can be made by removing the original tapes and replacing with new ones for the revised program. Labelon Tape Co., Inc., 450 Atlantic Ave., Rochester, New York, furnishes 14 different solid color tapes and 12 patterns suitable for this operation.

Write No. 46 on Place Mark Card—Page 32



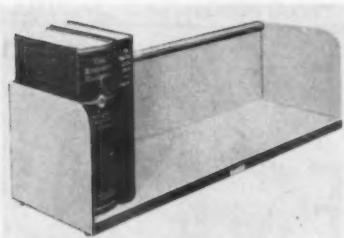
Fire resistant waste basket has been added to the line of National Vulcanized Fibre Co., Beech Street, Wilmington 99, Delaware. The new line can be used wherever a fire hazard is present, or where fire laws require the waste basket to be intact after its contents are consumed by fire.

Write No. 47 on Place Mark Card—Page 32



Typewriter pad to reduce noise and vibration is a product of Ace Lite Step Co., 1708 S. State St., Chicago, Ill. It consists of a $\frac{1}{8}$ inch corrugated rubber top wedged to a $\frac{3}{8}$ inch sponge rubber base. The waffle design of the base provides a suction grip which makes it slip proof.

Write No. 48 on Place Mark Card—Page 32



Desk top bookcase has been introduced by Lit-Ning Products Company, 170 Robertson Blvd., Beverly Hills, Calif. It fits on the top of any desk, table and credenza and will hold books, catalogs and magazines. The unit measures 7" x 25" x 7½" and comes in gray, tan, and green.

Write No. 49 on Place Mark Card—Page 32

Free 16-page booklet describes colored ball point pens that can be used with Thermo-Fax copying machines. It lists more than 150 ball point and liquid graphite pens and is available from Minnesota Mining and Manufacturing Co., St. Paul 6, Minn.

Write No. 50 on Place Mark Card—Page 32

Four-color, six page descriptive folder on a new model mimeograph has been published by A. B. Dick Company, Chicago. The folder outlines speed, work that can be accomplished, operating supplies and accessories available.

Write No. 51 on Place Mark Card—Page 32



An eraser that spins at 4500 rpm has been introduced by Jet Corporation of America, 16 South Broad St., Phila., Pa. Corrections without slipsheets can be made on multiple carbon copies without smudging, as speed and not pressure is used. The new eraser operates on standard flashlight batteries and comes with 11 replaceable tips.

Write No. 52 on Place Mark Card—Page 32

NEW LOW-COST WAY TO RAISE OUTPUT



Acme Visible Planning Panels make it easy to stay on top of your shop

Timing is the essence of high production at low cost. And Acme Visible Panels make it easy for you graphically to plan, schedule and follow through every job. Machine loading. Personnel assignment. Shipping. Data cards in pockets keep essential facts at your fingertips. Visible margins portray your scheduling and work progress at a glance. Send for full facts.

ACME VISIBLE

Acme Visible Records, Inc.,
8208 West Allview Drive, Crozet, Va.
Please send free booklet on production planning and control panels.

NAME _____

COMPANY _____

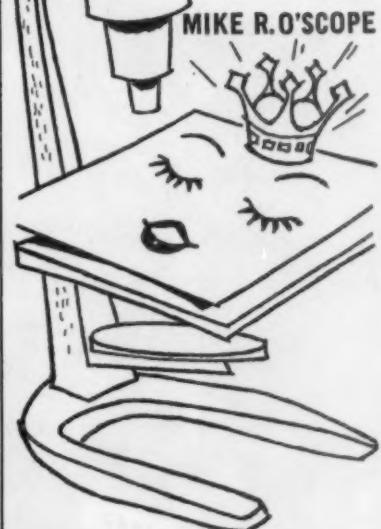
ADDRESS _____

CITY _____ STATE _____

For More Information Write No. 238 on Place Mark Card—Page 32

"I can always tell a
QUALITY PAPER"

says

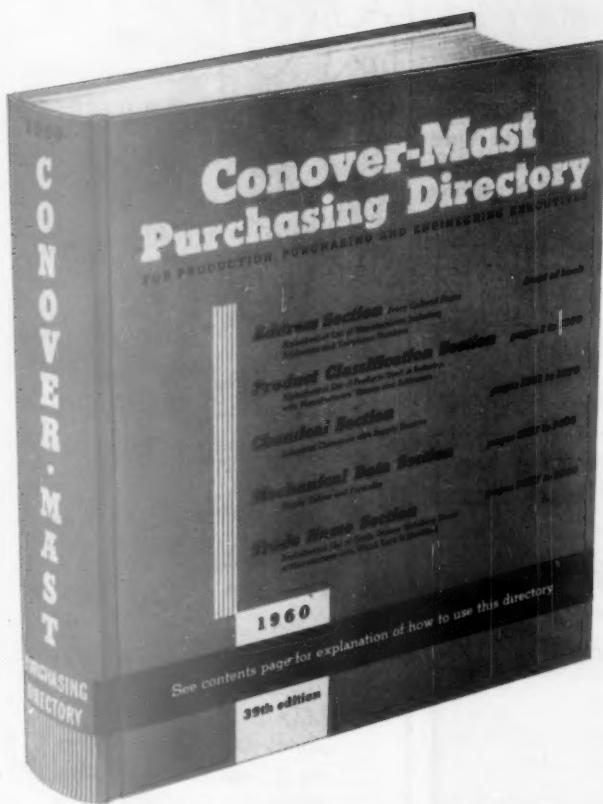


You can take it from Big Mike that L. L. Brown rag content LEDGER PAPERS are the world's finest and most versatile. If your business demands records that must last through the years, withstand constant wear and even abuse, be sure to specify L. L. Brown papers.

"The quality which has earned its reputation"



For More Information Write No. 239 on Place Mark Card—Page 32



WHAT MAKES A GOOD DIRECTORY?

Accuracy

CONOVER-MAST PURCHASING DIRECTORY, with its constant check of telephone numbers, is brought continually up to date. If a manufacturer moves or goes out of business the telephone companies are the first to know. (CMPD is the only major industrial directory that includes telephone numbers.)

Completeness

In CMPD secondary product headings are cross indexed to the one *complete* heading. There are no misleading, incomplete minor headings.

Convenience

CMPD lists all industrial products, but only industrial products. It is complete in one volume to conveniently serve the industrial buyer.

Size ratings

In CMPD (and *only* CMPD among major industrial directories) size is shown by employment—a current and meaningful gauge.

Conover-Mast Purchasing Directory

205 E. 42nd St. New York 17, N. Y.
MU 9-3250

Office Equipment



Electric heavy-duty adding machine is being marketed by **R. C. Allen Business Machines, Inc., Grand Rapids, Mich.** It features a motorized key for multiplication and repeat items, a correction key that automatically restores the keyboard to normal, and automatic space-up totalling.

Write No. 53 on Place Mark Card—Page 32

Manufacture of a new 100 section annunciator lamp cabinet has been announced by **H. R. Kirkland Company, Morristown, N. J.** The new unit has large size back-lighted "windows" which can carry an engraved message or hand marked legends applied with a grease pencil. It is available with windows $3\frac{1}{2}$ " square and can be grouped in flush or surface type cabinets.

Write No. 54 on Place Mark Card—Page 32



New labels which are dirtproof, oil resistant and weatherproof have been added to the line of pressure-sensitive products of **W. H. Brady Co., 727 W. Glendale Avenue, Milwaukee, Wisc.** A feature of the new labels is that they may be typed, stamped or written on. They come in 12 different sizes.

Write No. 55 on Place Mark Card—Page 32

SQUEEZED for filing space?

make room with VERTI-FILE

With VERTI-FILE you can file over twice as much material in the same floor area occupied by a conventional file. VERTI-FILE makes more room! That's why more and more offices are switching to this modern system for filing active records.

Compared with the regular 4-drawer file which holds only 8% lineal feet of active records, an 8-shelf VERTI-FILE unit provides space for $23\frac{1}{2}$ lineal feet. Further, VERTI-FILE positions filed material so you can get at it faster and easier than ever.

Get out of that squeeze . . . get VERTI-FILE! Call your local DeLuxe dealer or write today for complete information. DeLuxe Metal Products Division, Dept. 73-H.



ROYAL METAL MANUFACTURING COMPANY

Royal

DELUXE METAL PRODUCTS DIVISION • 1 PARK AVE. N.Y. 16, N.Y.

For More Information Write No. 240 on Place Mark Card—Page 32

For More Information about ad on following page
Write No. 241 on Place Mark Card—pg. 32→



A REPORT FROM ALCOA



To the purchasing agent who must decide about **ALUMINUM CONDUIT**

How one p.a. and one hacksaw blade cut the cost of installing 40,000 feet of conduit

The man who purchased this conduit knew he would save money—on initial cost, on handling and installing—but, when only one hacksaw blade was required to install all 40,000 feet, this economy became real and obvious.

Alcoa aluminum conduit cuts easier, threads easier, bends easier than steel conduit.

And it weighs about $\frac{1}{3}$ as much. A 10-foot length of Alcoa 4" aluminum conduit weighs only 34 pounds, compared to 98 pounds for steel.

Immediate savings. Compare first-price cost with that of steel conduit and you'll see how favorably Alcoa aluminum conduit stacks up. When you consider *other* costs—cutting, bending, threading and installing—you'll see why aluminum is now specified for more plant installations than ever before.

Long-term economy. Once installed, Alcoa conduit goes on saving you money. It's corrosion-resistant, nontoxic, nonstaining, and keeps its good appearance through the years with only routine care.

See for yourself. Heft a length of Alcoa conduit, and you'll see how important it is to consider aluminum for your next conduit order. Ask one of our representatives for a free sample . . . or a copy of the 12-page booklet "Alcoa Aluminum Electrical Rigid Conduit." Or write to Rome Cable Division of Alcoa, Department 14-80, Rome, New York.

NOW YOU CAN GET ALL 4 FROM ROME



Copper wire and cable



Aluminum wire and cable



Aluminum conduit



Aluminum bus conductor

ROME CABLE DIVISION OF ALCOA



Association News

Through the eye of PURCHASING'S Camera

AKRON—The new association president, L. M. Pettit, Kent Machine Co. (center), is shown with his four fellow officers. Seated on the left is C. B. Warner, Babcock & Wilcox Co., first vice president, and on the right is A. B. Reash, Frank J. Stoltzka & Son, second vice president. Standing is Treasurer C. W. MacCready, (l.) Ohio Edison Co., and D. P. Walcott, B. F. Goodrich Co., secretary.



MILWAUKEE—New officers for the coming year are: (front, l. to r.) president, T. C. Ray, Inland Steel Products Co. and Fred J. MacDougall, Allis Chalmers Mfg. Co., national director; (rear l. to r.) Leonard E. Benedict, Amity Leather Co., treasurer; Lawrence R. Jarney, Oshkosh Motor Truck Inc., secretary; and Frank A. Messar, Globe Union Inc., vice president.



NEW ENGLAND—It was a unanimous vote for the new officers. They are: First row (l. to r.), Eliot P. Emerson, secretary; William C. Kendrick, H. P. Hood & Sons Inc., national director; and Louis A. Little, Simonds Saw & Steel Co., president. Second row (l. to r.): D. J. Lewis, Christian Science Publishing Society, director; Russell Allen, Macallen Co., director; R. C. Spofford, Oxford Paper Co., director; and E. E. Hansen, Hersey-Sparling Meter Co., director. Third row (l. to r.): H. A. Hamilton, General Electric Co., director; W. F. Kope, Plymouth Cordage Co., treasurer; Stuart Flanders, Maxim Motors Co., vice president; and Harold Bloom, Avco Corp., director.

For More Information about ad on facing page
Write No. 242 on Place Mark Card—pg. 32→
PURCHASING



100 of the leading gasket fabricators in the business

display this emblem. They offer you prompt delivery of gaskets cut to your specifications. And each Approved Fabricator in this nation-wide network of independent suppliers can bring you the advantages of Armstrong's extensive research on gasket engineering problems. Armstrong Cork Company, Industrial Division, Lancaster, Penna.



Association News

Through the eye of PURCHASING'S Camera

SPRINGFIELD—New officers of this Ohio Association are (l. to r.): William Craig, national director; Herbert Young, secretary; William Metz, treasurer; Ted Bell, president; and John Arnold, vice president.



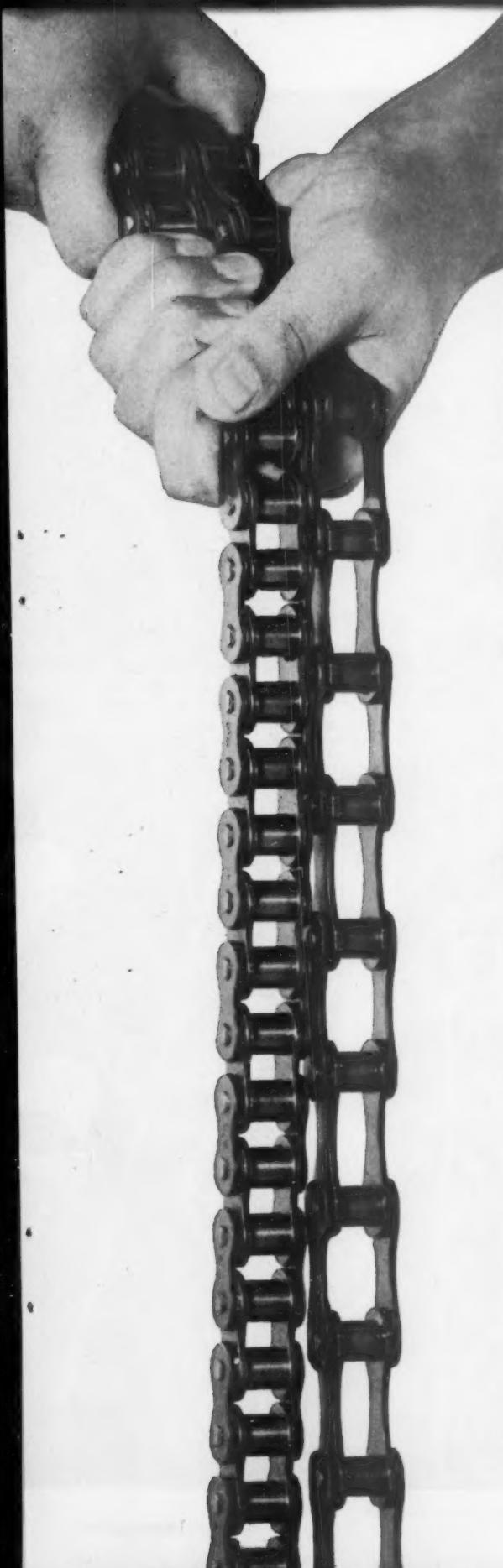
NORTH CENTRAL OHIO—Pictured are the 1960-61 officers of the Association. Seated are G. D. Moore (left), treasurer, and W. M. Wilson, secretary; standing (l. to r.) are V. S. Smeltzer, vice president, and D. B. Shepherd, president.



BUFFALO—At the helm for the next year are (seated l. to r.): F. W. Martin, Industrial Transmissions, Inc., secretary; R. S. Josselyn, Westinghouse Electric Corp., vice president; J. R. Berg, Buffalo Steel Corp., president; G. G. Misener, Great Lakes Carbon Corp., vice president;

and L. J. Chisholm, Curtis Screw Co., treasurer. Standing (l. to r.) are: W. A. Duszynski, Acme Builders' Supply, director; H. E. O'Grady, Ford Motor Co., national director; C. A. McNaboe, Harrison Radiator Division, director; and F. P. Best, Linde Company, director.

For More Information about ad on facing page
Write No. 243 on Place Mark Card—pg.—32→



This Chain Contains ALL the Oil it will EVER Need!

IT'S WHITNEY MSL* SELF-LUBRICATING CHAIN

RUNS CLEAN BECAUSE IT'S SELF-LUBRICATING

Whitney MSL* Power Transmission and Conveyor Chain is lubricated for life by oil-impregnated sintered steel bushings. In operation, the lubricant expands and flows over all vital bearing surfaces; when the drive stops, the lubricant contracts and is reabsorbed by the bushing. This cycle continues throughout the chain's service life. *No additional oil is required.* This means clean running chain—no contamination of product or materials in food, textile, paper, chemical and packaging industries!

RUNS LONGER BECAUSE IT'S SELF-LUBRICATING

MSL* Chain outlasts conventional pre-lubricated chain as much as 5 to 1 in severe operating requirements. Built-in lubrication at the 3 critical wear points—Pin, Plates, and Sprocket Engagement—solves a major chain problem: more damage is caused by faulty lubrication than by years of normal service. Highest material standards, advanced manufacturing processes and self-lubrication are combined in MSL* Chain to give you longer service life.

COSTS LESS TO USE BECAUSE IT'S SELF-LUBRICATING

By eliminating the need for manual lubrication or lubricating devices, Whitney MSL* Self-Lubricating Chain ensures lower installation, maintenance, and use cost. Whitney MSL* Chain conforms to A.S.A. Standards and is completely interchangeable with any similar pitch chain.

Get complete details on this outstanding chain today. Ask your nearby Whitney Chain Distributor, or write for Bulletin MSL B-2.

*Maximum Service Life



THE WHITNEY
a subsidiary of FOOTE BROS.
GEAR AND MACHINE CORPORATION

CHAIN COMPANY
4581 S. Western Blvd., Chicago 9, Ill.

POWER TRANSMISSION DRIVES

The Aluminum Man*



* Twelve years a champion of the finest metals for industry, Robert F. Messersmith—Alcoa Distributor Salesman for Corey Steel Co., Chicago, Ill.—is another of the men who make service to industry their careers, through knowledge of aluminum.

He helps cut your pipe and tube costs 3 ways

1—LOWER FIRST COST. With aluminum, you get *three times more footage per pound* than with standard heavyweight metals.

2—LOWER INSTALLATION COST. Standard alloys can be easily welded, threaded or mechanically coupled. And aluminum's light weight always means easier, faster handling.

3—LOWER MAINTENANCE COST. Aluminum

needs no costly paint jobs to protect it against the weather, most atmospheres and many fluids and gases that attack other metals.

The Aluminum Man can give immediate "from-stock" delivery of the most commonly used sizes and alloys. Check with him for specification and technical data and how best to use **Alcoa® Aluminum**. Aluminum Company of America, 936-H Alcoa Building, Pittsburgh 19, Pa.



Call The Aluminum Man...he's your local Alcoa Distributor Salesman for aluminum sheet and plate, wire, rod and bar, extruded shapes and all Alcoa Mill Products.



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TO BETTER SERVE YOUR IMMEDIATE NEEDS

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*Ducommun Metals & Supply Co.
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(Raymond 3-7781)

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(Gridley 7-3141)
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(BELmont 4-3253)

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*Pacific Metals Co., Ltd.
(Underhill 3-5600)

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Marsh Steel & Aluminum Co.
(Keystone 4-1241)

Denver 16
Metal Goods Corp. (Dudley 8-4141)

CONNECTICUT
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*Edgcomb Steel of New England, Inc.
(Trinity 4-1631)

Windsor
Whitehead Metals, Inc.
(Murdoch 8-4921)

FLORIDA
Jacksonville 5
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(Oxford 6-0150)

Tampa 10
The J. M. Tull Metal & Supply Co., Inc.
(3-6741)

GEORGIA
Atlanta 2
*The J. M. Tull Metal & Supply Co., Inc.
(Jackson 5-3871)

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Aluminum Products Hawaii, Ltd.
(94-861)

IDaho
Boise
Pacific Metal Co. (3-6468)

*Home Office

ILLINOIS
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*Central Steel and Wire Co.
(Republic 7-3000)
*The Corey Steel Co. (Bishop 2-3000)
Chicago 23

*Steel Sales Corporation
(Bishop 7-7700)

INDIANA
Indianapolis 18
Steel Sales Co. of Indiana, Inc.
(Liberty 6-1535)

KANSAS
Wichita
Marsh Steel & Aluminum Co.
(Whitehall 2-3231)

LOUISIANA
New Orleans 12
Metal Goods Corp. (Jackson 2-7373)

KENTUCKY
Louisville 3
Williams and Company, Inc.
(Juniper 3-7781)

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MARYLAND
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Whitehead Metals, Inc.
(Eastern 7-3200)

MASSACHUSETTS
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Whitehead Metals, Inc.
(Trowbridge 6-4680)

Roxbury
Eastern Metal Mill Products Co.
(Highlands 2-5900)

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Detroit (Hazel Park)
Meier Brass & Aluminum Co.
(Jordan 6-3902)

Detroit 10
Steel Sales Co. of Michigan
(Tyler 6-3000)

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Minneapolis 13
Steel Sales Co. of Minnesota
(Sterling 1-4893)

MISSOURI
North Kansas City 16
*Marsh Steel & Aluminum Co.
(Grand 1-3505)

Metal Goods Corp. (Grand 1-3516)
St. Louis 14

*Metal Goods Corp. (Harrison 7-1234)
St. Louis 10

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(Humboldt 5-5900)

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(Waverly 6-6000)

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(Bedford 3100)

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*Adam Metal Supply, Inc.
(Stilwell 6-7737)

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(Browning 2-7000)

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Edgcomb Steel Co. (Franklin 5-3361)

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Edgcomb Steel Co. (Broadway 5-8421)

OHIO
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Central Steel and Wire Co.
(Avon 1-2230)

Cincinnati 37
Williams and Company, Inc.
(Capitol 1-3000)

Cleveland 2
*A. M. Castle & Co.
4510 Division Avenue
(Atlantic 1-5100)

Cleveland 14
Williams and Company, Inc.
(Utah 1-0000)

Columbus 12
Williams and Company, Inc.
(Axminster 4-1623)

Toledo 12
Williams and Company, Inc.
(Greenwood 5-8661)

OKLAHOMA
Tulsa 13
Metal Goods Corp. (Temple 6-2561)

OREGON
Portland 9
*Pacific Metal Co. (Capitol 7-0693)

PENNSYLVANIA
Philadelphia 34
*Edgcomb Steel Co. (Garfield 3-6300)

Philadelphia 33
Metal Supply Co. (Center 6-0220)

Philadelphia 40
Whitehead Metals, Inc.
(Baldwin 9-2323)

Pittsburgh 33
*Williams and Company, Inc.
(Cedar 1-8600)

York
Edgcomb Steel Co. (47-1411)

RODE ISLAND
Stamersville
Edgcomb Steel of New England, Inc.
(Poplar 7-0900)

SOUTH CAROLINA
Greenville
The J. M. Tull Metal & Supply Co., Inc.
(Cedar 3-8363)

TENNESSEE
Memphis 6
Metal Goods Corp. (Whitehall 8-3407)

TEXAS
Dallas 35
Metal Goods Corp. (Fleetwood 1-3271)

Houston 1
Metal Goods Corp. (Riverside 7-1110)

UTAH
Salt Lake City 1
Pacific Metals Co., Ltd. (Davis 2-3461)

WASHINGTON
Seattle 8
Ducommun Metals & Supply Co.
(Parkway 5-1500)

Seattle 4
Pacific Metal Co. (Main 2-6925)

WISCONSIN
Milwaukee 1
Central Steel and Wire Co.
(Humboldt 1-5000)

Milwaukee 9
Steel Sales Co. of Wisconsin
(Hilltop 2-2020)

FLOOR WORRY FREE WEAR PROOF

rubber matting

SHAD-O-RUG

by America's
1st name in
floor mats since 1903

- Top quality $\frac{1}{4}$ inch
heavy duty live rubber
- Choice of 6 smart decorator colors
- Low cost!

Today's most popular rubber runner!
Stops dirt at the entranceway or in corridors and aisles. Prevents tracking throughout the building. Protects carpeting and floors . . . cuts down maintenance time, labor and expense. Anti-slip action prevents accidents. Ultra-attractive design.

48 inch width
up to
60 ft. lghth.

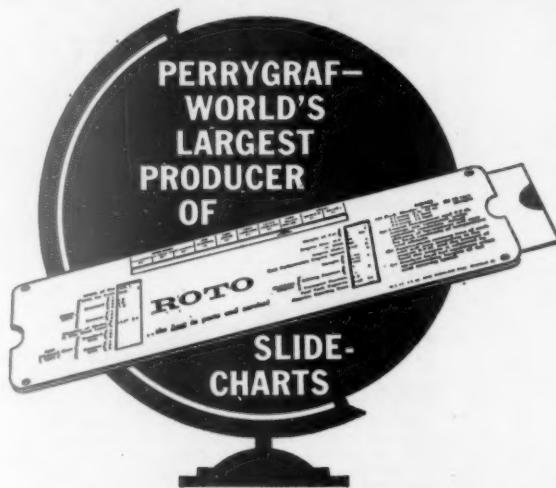
Write for
complete details
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CROSS-RIB RUNNER
Same top quality live
rubber. Selection of
smart colors. Functional
design. Available in
36 and 48 inch
widths—up to
60 ft. lghth.



WEAR PROOF MAT CO.

For More Information Write No. 245 on Place Mark Card—Page 32



Two hundred million since 1932! More Slide-Charts for more people than any other company in the world.

Two Modern Plants, one geared to runs of millions, the other to hundreds. Finest facilities for accurate printing and assembly. Deliveries as high (in a pinch) as a million per week. Prices consistent with quality work and dependent on quantity and materials from pennies to dollars.. We invite your inquiry. Send for free full color booklet including 122 actual case histories.

PERRYGRAF CORPORATION

1500-I Madison Street, Maywood, Illinois 150-I South Barrington Avenue, Los Angeles 49, Calif. Sales Offices in Principal Cities

For More Information Write No. 246 on Place Mark Card—Page 32

Association News

Chairmen Appointed for Food Industries Group

K. A. Castellanos, Walter Baker Chocolate division of General Foods Corporation, Dorchester, Mass., was appointed national chairman of the Food Industries Buyers Group.



K. A. Castellanos

District vice chairman for the group are: Howard H. Cagle, Carnation Company, Los Angeles; Carl F. Deffner, Armour & Company, Oklahoma City; Daniel J. Devine, Kraft Foods Company, New York; Samuel Dillon, H. J. Heinz Co., Pittsburgh; John L. Douglas, Coca-Cola Company, Atlanta; W. M. Grim, Stroh Brewery, Detroit; William C. Kendrick, H. P. Hood & Sons, Inc., Boston; Thomas M. Laird, Keebler Biscuit Co., Philadelphia; and Russel P. Oliver, H. Kohnstamm & Co., Chicago.

Michigan State Seminar Starts October 30

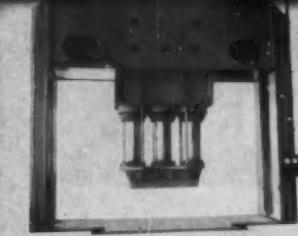
The fifth consecutive purchasing and materials management seminar at Michigan State University will run from October 30 through November 11.

A staff of outstanding leaders in business and education from across the nation will conduct the two weeks of concentrated study in this program of executive education. Formal presentations, planned discussions, field trips, case problems and informal sessions are included.

Some of the top-notch purchasing people on the seminar staff are: A. M. Kennedy, Westinghouse (Please turn to page 148)

For More Information about ad on facing page
Write No. 247 on Place Mark Card—pg. 32→

PURCHASING



You can depend on the uniform structure and properties of Meehanite nodular whether the casting weighs $\frac{1}{2}$ ounce as pictured below or many hundreds of pounds. Photograph above shows a 1500 ton Hydraulic press with Meehanite rams.

in nodular iron . . .

soundness can be controlled

Meehanite foundries have the "know-how" and experience

There is nothing new about nodular or ductile cast iron, but the problem is that not every foundry has the metallurgical know-how and facilities to produce castings that live up to published claims.

When you purchase nodular iron from a Meehanite foundry you can always be sure of getting dependable castings that possess the desired engineering advantages — *high strength, ductility, toughness*.

The consistent, high quality of Meehanite castings is achieved by a "proven" manufacturing procedure used by Meehanite foundries throughout the world. Meehanite foundries have

over a quarter of a century of experience in the manipulation and use of the essential processing materials needed to convert the graphite in cast iron from the flake form into the nodular.

Put this experience to work for you. Avoid the risk of costly defects. Seven different "S" types of Meehanite nodular are available and there is a nearby Meehanite foundry ready to serve your needs.

For more facts about Meehanite Nodular Iron write for your FREE copy of our new bulletin No. 47. Write today to Meehanite Metal Corp., 714 North Ave., New Rochelle, N.Y.

MEEHANITE METAL

The American Laundry Machinery Co.,
Rochester, N. Y.

Atlas Foundry Co., Detroit, Mich.

Banner Iron Works, St. Louis, Mo.

Barnett Foundry & Machine Co.,
Irvington, N. J.

Casting Service Corp., LaPorte, Indiana
and Bridgman, Michigan

Centrifugally Cast Products Div., The
Shenango Furnace Co., Dover, Ohio

Crawford & Doherty Foundry Co.,
Portland, Ore.

Dayton Casting Co., Dayton, Ohio

Empire Foundry Co., Tulsa, Okla.
and Bonham, Texas

Florence Pipe Foundry & Machine Co.,
Florence, N. J.

Fulton Foundry & Machines Co., Inc.,
Cleveland, Ohio

General Foundry & Mfg., Flint, Mich.

Georgia Iron Works, Augusta, Ga.

Greenlee Foundries, Inc., Chicago, Ill.

Hamilton Foundry Inc., Hamilton, Ohio

Johnstone Foundries, Inc., Grove City, Pa.

Kanawha Manufacturing Co.,

Charleston, W. Va.

Kennedy Van Saun Mfg. & Eng. Corp.,

Danville, Pa.

Lincoln Foundry Corp., Los Angeles, Calif.

Oil City Iron Works, Corsicana, Texas

Palmyra Foundry Co., Inc., Palmyra, N. J.

The Henry Perkins Co., Bridgewater, Mass.

Pohlman Foundry Co., Inc., Buffalo, N. Y.

Rosedale Foundry & Machine Co.,
Pittsburgh, Pa.

Ross-Meehan Foundries, Chattanooga, Tenn.

Sonith Foundries of FMC, Indianapolis, Ind.

Standard Foundry Co., Worcester, Mass.

The Stearns-Roger Mfg. Co., Denver, Colo.

Vulcan Foundry Co., Oakland, Calif.

Washington Iron Works, Seattle, Wash.

Dorr-Oliver-Long, Ltd., Orillia, Ontario

Hartley Foundry Div., London Concrete

Machinery Co., Ltd., Brantford, Ontario

Otis Elevator Co., Ltd., Hamilton, Ontario

MEEHANITE METAL CORPORATION, NEW ROCHELLE, NEW YORK



SOFTITE BY WHEELING



...bend it



...hem it



...scribe it



...punch it



...form it



...notch it



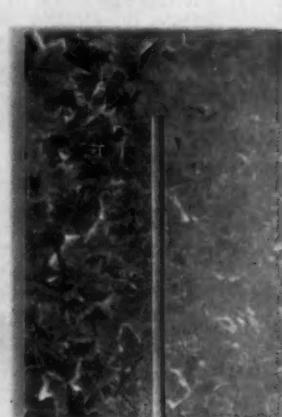
...lock it



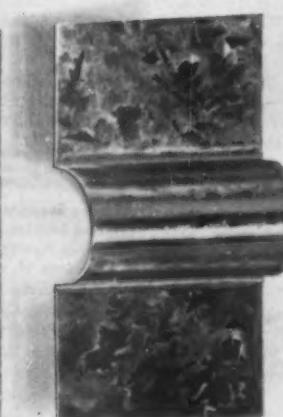
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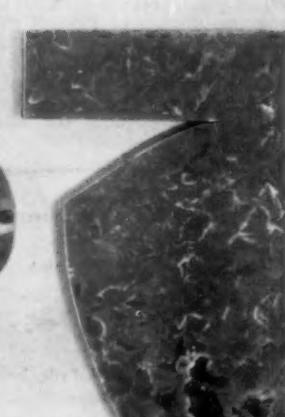
...draw it



...saw it



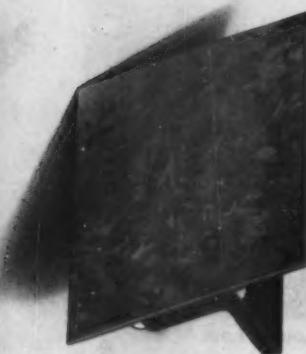
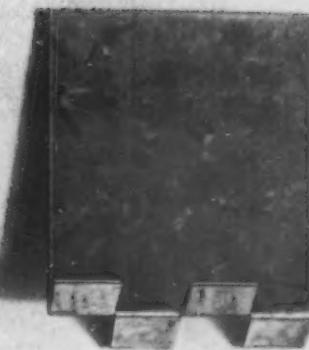
...stamp it



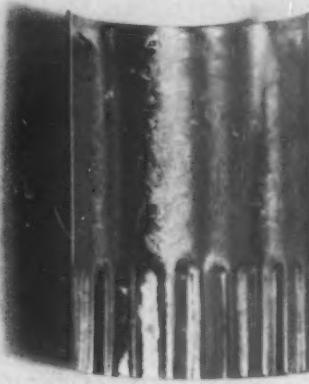
...shear it



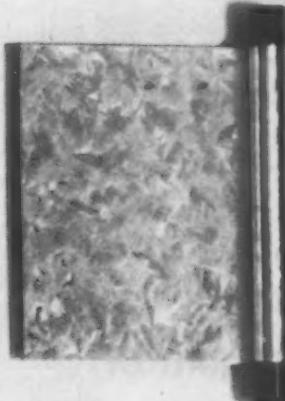
...seam it ...dovetail it



...weld it ...crimp it



...slit it



...wire it

OUR CHALLENGE STANDS!

**"Anything that
can be made
of steel sheets
can be made of
WHEELING SOFTITE
galvanized steel
sheets!"**

WHEELING STEEL CORPORATION • IT'S WHEELING STEEL!
*District Sales Offices located at Atlanta, Boston, Buffalo,
Chicago, Cincinnati, Cleveland, Detroit, Houston, New York,
Philadelphia, St. Louis, San Francisco, Wheeling*



★ANOTHER FIRST FOR AICO★

AICO-molded laundry tub wins top consumer award at annual SPI exhibit

Coveted 1st Prize for Consumer Products was awarded this AICO-molded laundry tub at the 1960 conference of The Society of Plastic Industry's Reinforced Plastics Division. The award-winning appliance was molded of reinforced plastic by a new "Premix" process . . . a process pioneered by AICO and one that offers outstanding benefits to manufacturers in many fields of industry.

a new cost-cutting process for countless applications



For the manufacturer, the low cost of the new Premix Process is only the first of many proven benefits. Aico Premix Molded Products have built-in consumer appeal . . . surfaces are glossier, smoother . . . attractive colors blend eye-appeal . . . general appearance and buy-appeal is greatly improved. Most important of all . . . the new AICO Premix Process opens up countless new applications for reinforced plastics . . . applications in every field of manufacture that were previously impossible because of the cost factor or physical limitations of existing methods.



AICO's complete plastics molding service includes:

- Engineering
- Compression Molding
- Flanger Molding
- Cold Molding
- Mold Building
- Transfer Molding
- Injection Molding
- Molding of Reinforced Fiberglass

FREE to help you make better use of plastics



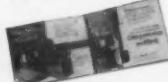
AICO PLASTICS DESIGNER'S HANDBOOK

Tells and illustrates how low unit cost can be achieved through proper plastics design.



AICO PLASTICS APPLICATOR

Tells molding material best suited for your product—tells how it should be molded.



AICO FACILITIES BOOKLET

Tells how to select a fully-equipped molder to do your job . . . shows how to avoid split responsibilities.

Write for your FREE copies today

DISCOVER HOW YOU CAN CUT PRODUCTION COSTS WITH AICO'S "PREMIX" MOLDED PLASTIC PARTS

Write for
the Fall
Details
Today

AMERICAN INSULATOR CORPORATION

New Freedom • Pennsylvania

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For More Information about ad on preceding
page Write No. 248 on Place Mark Card—pg. 32

148

Association News

(Continued from page 144)

house Electric Corp.; Clifton E. Mack, Institute of Technology; C. W. McVicar, Rockwell Manufacturing Co.; C. F. Ogden, Detroit Edison Co.; and C. D. Brooks, Burroughs Corp.

For further information contact Dr. John H. Hoagland, Michigan State University, East Lansing, Michigan.

Rhode Island P.A.'s Have New President

Leo J. Lass, Newman-Crosby Steel Corp. was recently elected president of the Rhode Island Purchasing Agents Association.



Leo J. Lass

Other officers who will serve with Mr. Lass are: Thomas Battle, Improved Seamless Wire Co., first vice president; John M. Stevens, B. A. Ballou & Co., Inc., second vice president; Edward B. Winslow, Jr., General Electric Co., national director; and Arnot Hirst, secretary-treasurer.

Ann Arbor Association Holds Election

At a recent meeting of the Ann Arbor Purchasing Agents Association the members elected the following officers: president—Len Thomas, Argus Cameras; vice president—John Campbell, Unistrut Corp.; secretary—Richard Hallett, Royal, Incorporated; treasurer—Richard Rockman, Trilex Corp.; board of directors—Wes Donaldson, Argus Cameras, and Lyle Fellows, Utilex Corp.

from the hand of the
Specialist
TO YOUR
SPECIFICATIONS



ERIE Bolts • Studs • Cap Screws • Nuts
In Alloys • Stainless • Carbon • Bronze

The reading on this Surfindicator measures more than just the fine finish on this special bolt. It measures the result of the precision craftsmanship your own specifications receive at Erie Bolt & Nut Company. Producing a wide variety of special fasteners to resist corrosion, extremes in temperature and tensile stresses as specified is our exclusive job . . . has been for almost half a century. Send us your specifications for prompt estimate.



ERIE BOLT & NUT CO.
Erie, Pennsylvania
Representatives In Principal Cities

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AUGUST 15, 1960

SANDVIK SPRINGS

Spiral • Crosscurved • Stainless • Special

**FIT PERFORMANCE
AND COST REQUIREMENTS**



RETURN REELS

AIRCRAFT &
MISSILES

AND MANY
OTHER
PRODUCTS

in

OFFICE
MACHINES

CAMERAS

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SANDVIK STEEL, INC.

Fair Lawn, N. J. Tel. SWarthmore 7-6200

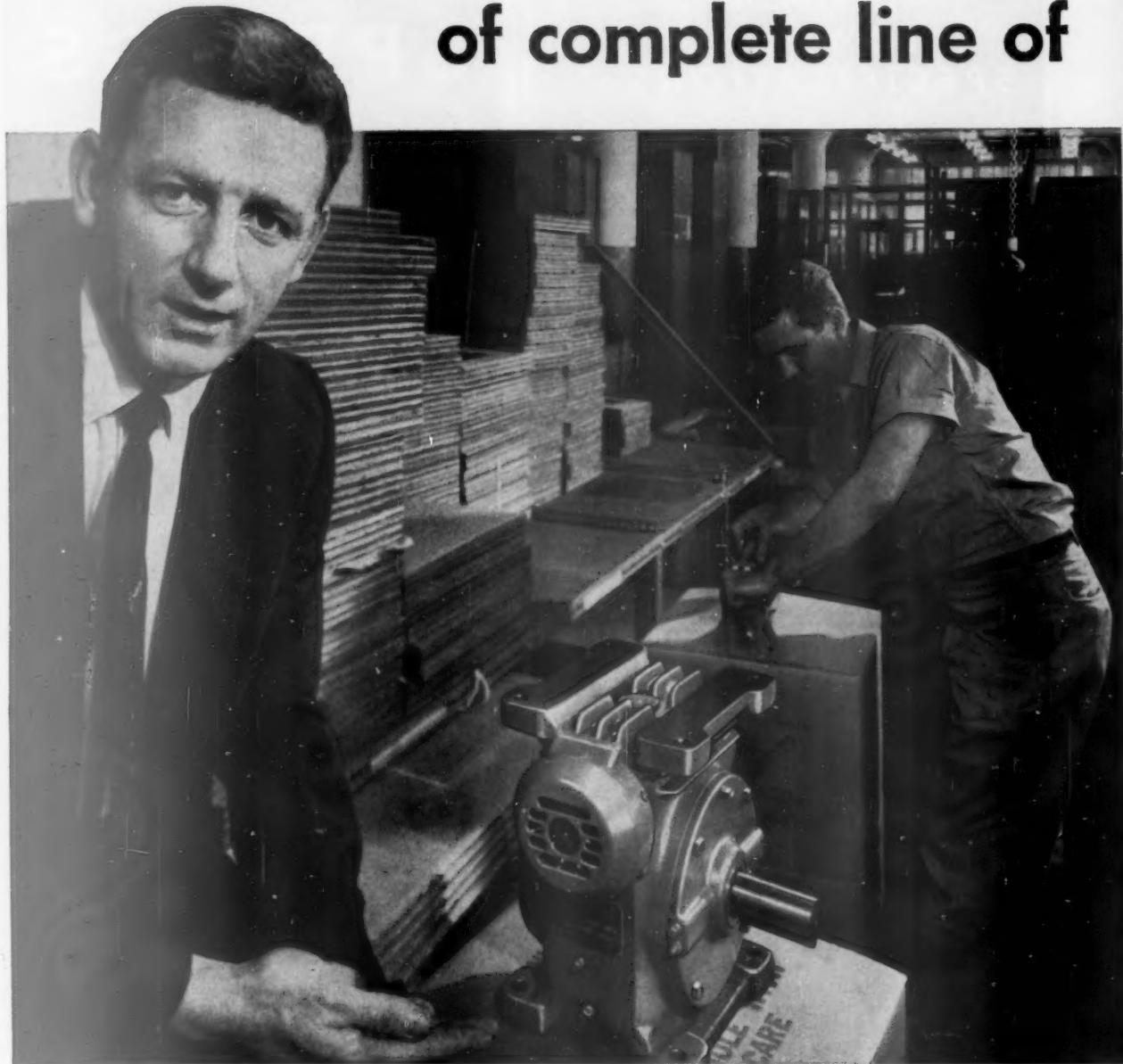
In N. Y. C. ALgonquin 5-2200

Cleveland • Detroit • Chicago • Los Angeles

SS-208

For More Information Write No. 251 on Place Mark Card—Page 32

"Now get immediate of complete line of



A. T. Gallagher, Manufacturing Superintendent, Delroyd Worm Gearing.

"Here's a shot of our Delroyd Verso worm gear — one of hundreds being boxed and made ready for shipment. Unlike most speed reducers, this Verso unit can be mounted in any position — horizontal, vertical, upside down. • "This is but one model in a complete line of Delroyd worm gear reducers — with the widest range of horsepowers and sizes in the industry."*

* $1\frac{1}{8}$ " center distance, fractional horsepowers — to 12" center distance, 152 horsepower. Reducers to 36" center distance with horsepower capacities to 700 are supplied as standard. Larger units to meet any requirement can be supplied on special orders.

delivery

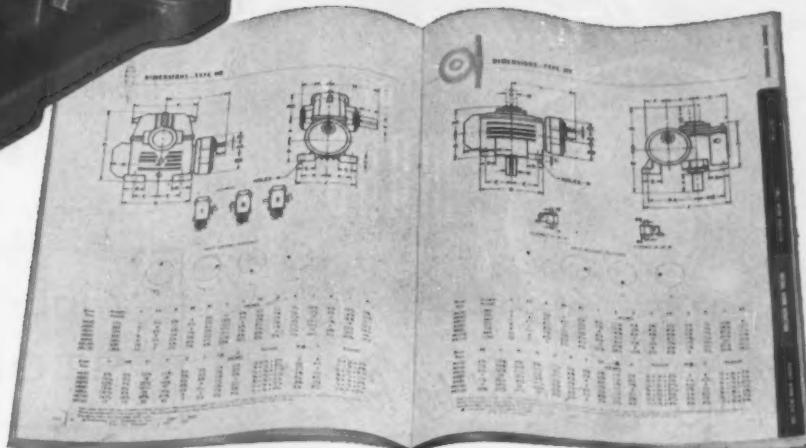
DELROYD worm gearing..."

DELROYD worm gearing

gives you these superior design features:



- Exclusive involute helicoid thread form for highest load capacities
- Centrifugally cast bronze gear for increased mechanical ratings
- Fan cooled finned housings for higher thermal ratings
- Lower weight per horsepower
- More horsepower per dollar



**NEW
full color
84-page
Delroyd
Catalog:**

Now available — the worm gear industry's newest, most complete catalog. Contains all basic design and application data, selection charts, ratings and service factors — plus illustrations in full color. For your free copy, write on your company letterhead to: Delroyd Worm Gearing, De Laval Steam Turbine Company, Trenton, New Jersey.



DE LAVAL STEAM TURBINE COMPANY

507 NOTTINGHAM WAY, TRENTON 2, N.J.

DL-210

For More Information Write No. 252 on Place Mark Card—Page 32

AUGUST 15, 1960

151

Association News

Steak Fry In Central Iowa



The Central Iowa Purchasing Agents held their annual outdoor steak fry on the picnic grounds of Midwest Metal Stamping Company. The dinner was preceded by a tour through the plant in the afternoon.

Chicago Association Elects Officers

The Purchasing Agents Association of Chicago recently elected Donald L. Harwood, Fairbanks, Morse and Company, president. Harold A. Berry, Chicago Rock

Island and Pacific Railroad, will serve with Mr. Harwood as first vice president.

Other officers elected were: second vice president, Richard B. Berry, City of Chicago; secretary,

L. R. Seen, Borg and Beck Division; treasurer, Walter Armstrong, American National Bank and Trust Co.; and national director, Jacob C. Frehner, Bowman Dairy Co.

New Officers For East End Clevelanders



Newly elected chairman of the East End (Cleveland) Purchasing Agents is Joseph Lasko (right), The American Stamping Co. Mr. Lasko will be assisted by Andrew Zamec (center), Cleveland Trencher Co., as vice chairman and Clarence E. Dutcher, Ohio Gear Co., as treasurer.

Mastergauge
by
MARSH
Nothing could be finer!

Mastergauge alone brings you "Conoweld" leakproof, one-piece tube and socket; sturdier Marsh-alloy case; precision mastergauge movement; stainless tube and socket when required.

Mastergauge is standard bearer for the broad line of Marsh Gauges for every service.

MARSH INSTRUMENT COMPANY
Division of Colorado Oil and Gas Corp.
Dept. G, Skokie, Illinois
Marsh Instrument & Valve Co., (Canada) Ltd.
8407 113rd St., Edmonton, Alberta, Canada
Houston Branch Plant, 1121 Railwell St.
Sect. 15, Houston, Texas



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152

FREE

to metalworking management!

NEW

16-page illustrated booklet

Vapor-from-paper
STOPS RUST

Now, you can "mothball" your metal parts or products as easily as your wife protects her woolens. This new booklet tells how Ludlow VPI® Wrap cuts costs in shipping and storage. Read how other companies have saved by

modernizing their preservation methods. It's FREE! Ludlow Papers, Needham Heights, Mass. Dept. 166.



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PURCHASING

Now—EASTERN'S Flying Freighters offer

OVERNIGHT DELIVERY

New York—Miami—San Juan

New York—Atlanta—New Orleans—Mobile—Houston
Chicago—Atlanta—Miami—San Juan

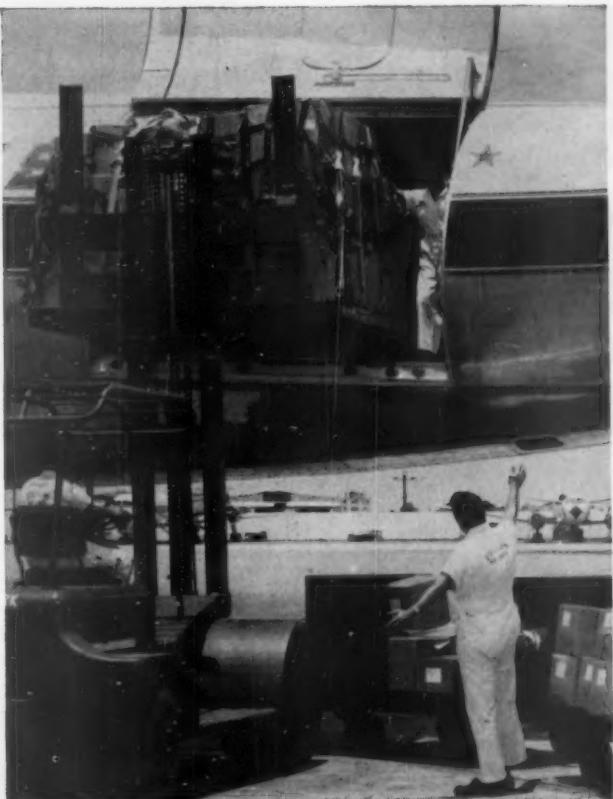
- Reserved space on every Freighter flight.
- Pressurized and temperature-controlled.
- Flights daily except Saturday and Sunday nights.
- Pickup and delivery service available.

In addition, Eastern offers freight space on over 400 daily passenger flights—including DC 8-B Jets and Prop-Jet Electras—to 128 cities in the United States, Canada, Bermuda, Puerto Rico and Mexico.

For Information and Freight Reservations, call your Freight Forwarder, Cargo Agent or Eastern Air Lines.

EASTERN AIR LINES

For More Information Write No. 255 on Place Mark Card—Page 32



Have you ever attended a Lamb Electric MOTOR CONFERENCE?

If you are planning a new product that will require a Special Fractional Horsepower motor . . . a Lamb District Engineer will set up a "Personalized Motor Conference", just for you. Result: The RIGHT MOTOR produced at the most favorable cost.

**THE LAMB ELECTRIC COMPANY
KENT, OHIO**

A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric
Division of Sangamo Company Ltd. — Leaside, Ontario

Lamb Electric
SPECIAL APPLICATION
FRACTIONAL HORSEPOWER **MOTORS**

Divisions of American Machine and Metals, Inc., New York 7, N. Y. TROY LAUNDRY MACHINERY • RIEHLE TESTING MACHINES • DE BOTHEZAT FANS • TOLHURST CENTRIFUGALS
FILTRATION ENGINEERS • FILTRATION FABRICS • NIAGARA FILTERS • UNITED STATES GAUGE • RAHM INSTRUMENTS • LAMB ELECTRIC CO. • HUNTER SPRING CO. • GLASER-STEERS CORP.

For More Information Write No. 256 on Place Mark Card—Page 32



Rope Wire Hose Wire
Fuse Wire Lamp Wire
Pin Ticket Match Wire
Bonnet Wire Steel Heddle
Spiral Binding Wire • Box Stay Wire
Bookbinders Wire • Stapling Wire
Tin Shaft Wire • Glass Netting Wire
Tinned Covering Wire • Hair Pin Wire
Tinned Anneal Tag Wire • Weaving Wire
Filler Wire • Ring Traveler • Mandrel
Wire • Tea Bag Wire • Stitching Wire
Liquor Stapling Wire—Brush.

Specialty Wire... our cup of tea

Problem: Staple the tea bag to the string and the string to the trademark tab. Make the attachment tear-proof and keep stapling machines running smoothly. Meet strict Government regulations involving cleanliness of wire, metallic content and corrosion factors.

Answer: Call Prentiss. This major tea firm did. Now, "being in hot water" is no problem at all. Write, call or wire: Prentiss Works, *Riverside-Alloy Metal Division*, H. K. Porter Company, Inc., Holyoke, Mass.

RIVERSIDE-ALLOY METAL DIVISION

PORTER

H. K. PORTER COMPANY, INC.

PORTER SERVES INDUSTRY with steel, rubber and friction products, asbestos textiles, high voltage electrical equipment, electrical wire and cable, wiring systems, motors, fans, blowers, specialty alloys, paints, refractories, tools, forgings and pipe fittings, roll formings and stampings, wire rope and strand.

For More Information Write No. 257
on Place Mark Card—Page 32

News

U.S. Steel to Build Wyoming Ore Facility

Construction of an iron ore mining and benefiting facility in Fremont County, Wyo., 26 miles south of Lander, has been started by U. S. Steel's Columbia-Geneva Steel division.

The project is scheduled for completion late in 1962. It will then supply pelletized iron ore to the division's integrated steel plant at Geneva Works, near Provo, Utah. This ore will supplement the present source of iron ore from mines near Cedar City, Utah, which will continue in operation.

J. D. McCall, president of the division said "The availability of this source of iron ore will place Columbia-Geneva in an excellent position to meet the future demands for steel by our growing western population."

The new project is designed to become the highest, large-scale open pit iron mining operation in the United States. Other major units slated for construction include an ore concentrating plant, a pelletizing plant, and loading and shipping facilities.

A key feature of the operations will be a tailings basin, for settling out waste materials to recover clear water.

N.Y. State Employment Climbs to Record High

Non-farm employment in New York State climbed to 6,207,000 in May—a record high for the month.

The total marked a 38,000 increase from the previous month. Seasonal hiring in construction and in the service industries accounted for most of the rise.

An all-time peak was reached by the banking-insurance-finance group—which added 2000 workers. Government jobs dipped slightly, as census takers completed their assignments. In the manufacturing area, small losses reported by durable goods producers were offset by modest gains in nondurables.

Industry

The first license to produce castings of U. S. Steel Corp's patented T-1 constructional alloy steel has been issued to a Los Angeles foundry, *Alloy Steel & Metals Co.*



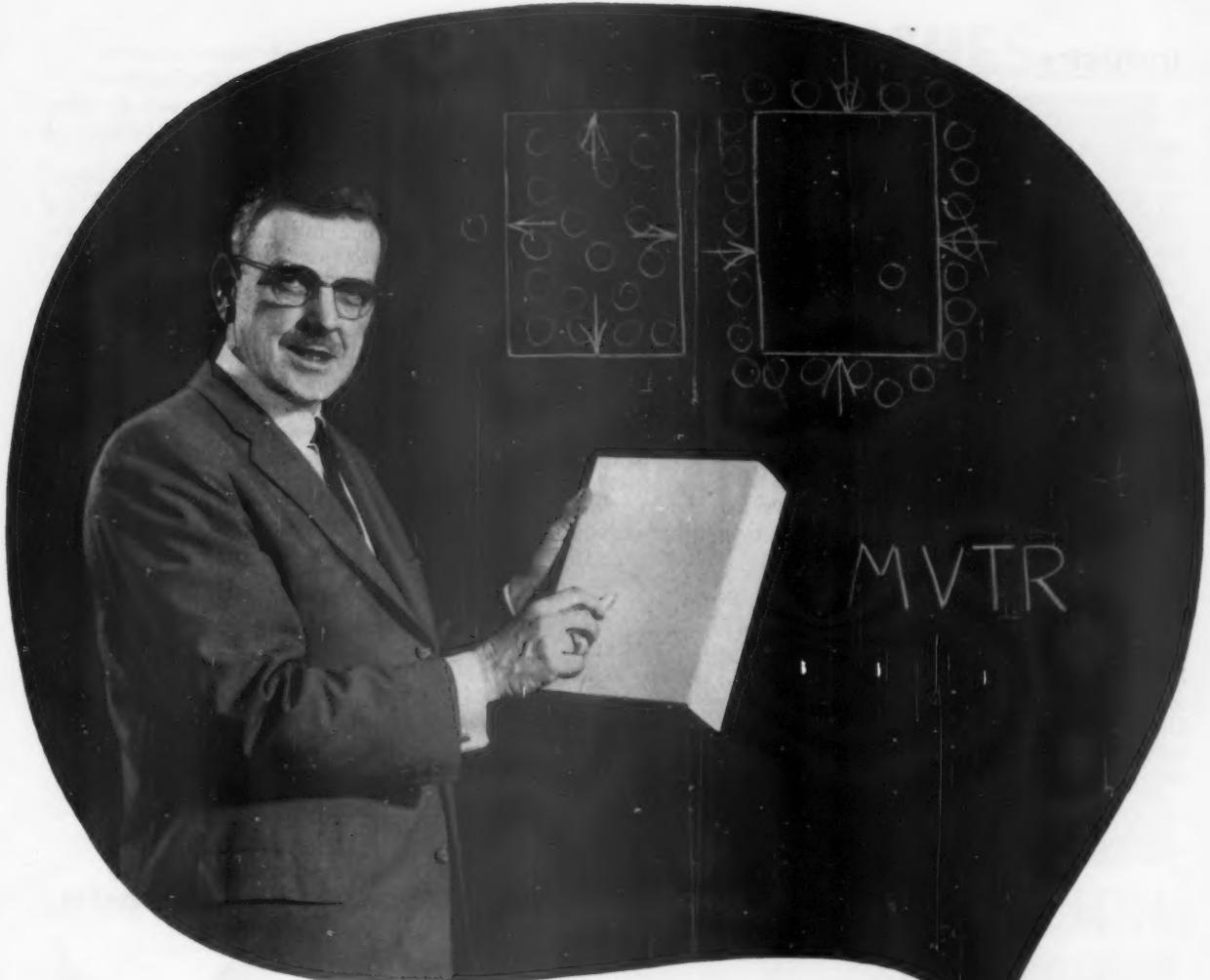
Castings of 'T-1' steel will give design engineers a new tool for improving the service life and operating economy of many types of industrial equipment. In plate and bar form T-1 has exceptional strength, toughness, field weldability and resistance to wear and corrosion. This is widely used in leading makes of mining, construction, logging transportation and other equipment subjected to rugged field use. T-1 steel castings will have the same basic mechanical properties.

The J. B. Beard Company, Inc., Shreveport, La., has added the manufacture and distribution of Maxim Silencers and heat recovery units to its existing product lines.

Acquisition of the Maxim products was made possible through the recent purchase of the **Maxim Division** from Emhart Manufacturing Company, Hartford, Conn., by American Machine & Foundry Company of which Beard is a wholly owned subsidiary.

Specialized machinery, jigs and fixtures used in producing the silencers have been transferred to the Beard plant, and the Shreveport-based company is already engaged in filling Maxim contracts. Maxim engineers have joined the Beard Company and are helping to facilitate the transition. No change is contemplated in the present Maxim sales agency arrangement.

For More Information about ad on facing page
Write No. 258 on Place Mark Card - pg. 32→
PURCHASING



M V T R / M A K E S T H E V I T A L D I F F E R E N C E . . . Moisture loss (or moisture gain) are vital factors in the food packaging business. Moisture loss results in less than full weight as marked on the package. Also, it makes the food unappetizing to the consumer. Moisture gain, on the other hand, makes for sogginess and loss of flavor. CCA Research and Development Laboratories know their MVTR—Moisture Vapor Transfer Rate. Build the proper moisture barrier into your package. To pack it—move it—sell it is the business of CCA packaging.

CONTAINER CORPORATION OF AMERICA

Chicago 3 . . . and all key marketing areas



Folding Cartons Shipping Containers Sefton Fibre Cans Molded Plastic Products Point-of-Purchase Displays Paperboard

Industry

Koppers Company, Inc. is expanding its Oil City, Pa. plant in order to produce a broader line of alkylated phenol. The new plant is expected to be producing by July 1.

New products of this plant will be: para-tertiary butyl phenol; para-tertiary amyl phenol; di-tertiary amyl phenol; and both 2,4 and 2,6 di-tertiary butyl phenol. The butyl and amino-phenols are primarily used in the production of oil soluble resins, detergents and as oil and rubber additives.

At its Oil City plant, Koppers' Tar Products Division currently produces anti-oxidants, para-cresol, and toluenes.

The Skinner Chuck Company, New Britain, Conn., has announced its acquisition of the Horton chuck line from the Geometric-Horton Division, United-Greenfield Corporation, New

Haven, Conn. The transaction includes the purchase of chuck trade names and trademarks, machinery, jigs, fixtures, inventory, drawings and patents of the Horton chuck line. A major part of the Horton line includes large-size chucks up to 60 inches, and electric chucks of types and sizes not manufactured by Skinner.

Skinner will continue to furnish repair parts for all Horton chucks made in the past, as long as there is a demand. This includes parts for Horton chucks that have been discontinued. Manufacturing will be transferred to New Britain. Sales and engineering activities of Horton chucks will be transferred to Skinner's New Britain plant immediately. Distribution of Horton chucks remains the same.

On July 1, 1960, Bausch & Lomb Optical Co., Rochester, N. Y., became Bausch & Lomb Incorporated. The new name, which was recently approved by company stockholders, recognizes that B&L is not restricting its re-

search and manufacturing interests to the field of optics alone.

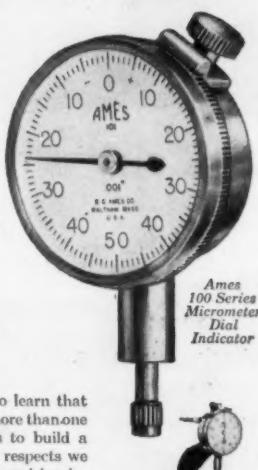
Bausch & Lomb was founded in 1853 for the manufacture of eyewear frames and lenses. Later, the company began manufacturing microscopes, and in the years which followed added diagnostic instruments, analytical and measuring tools, sporting and consumer items, among others. B&L will continue its primary interest in optical science. In addition, it is moving into related fields, such as radiation measurement and optic-electronic instruments.

Veeder-Root Inc., manufacturers of computers and counting instruments, is expanding its West Coast operations to include manufacturing as well as sales and service. A new plant at Glendale, Calif. will be known as Veeder-Root Western. It will provide manufacturing facilities for modification and testing of mechanical and electro-mechanical counting instruments.

AMES DIAL INDICATORS are built by nonconformists

Some people might be shocked to learn that in this day of automation it takes more than one hundred separate hand operations to build a single Ames micrometer. In many respects we are building and assembling these precision instruments exactly as we did fifty years ago.

Why? Because there are some jobs that can still be done better by a pair of skillful, sensitive hands than by the best automated machinery made. As long as this fact holds true we'll refuse—for your sake—to follow the crowd. For Catalog No. 60 write to B. C. Ames Co., 31 Ames St., Waltham 54, Mass.—in Canada, H. C. Burton Co., 166 Rebecca Street, Hamilton.



Representatives in Principal Cities

B.C. AMES CO.

MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES
ACCU-FLOW AIR GAGES • TRANSISTORIZED COMPARATORS

For More Information Write No. 259 on Place Mark Card—Page 32

THIS Is No Ordinary Power Hack Saw Blade



This is the *unbreakable* MARVEL High-Speed-Edge Hack Saw Blade—the first bi-metal blade—invented, developed and introduced by MARVEL. This blade was developed to cut any material from the free machining steels to the toughest alloys, fast, accurately and economically. Just one type blade to handle any job—no switching blades to cut different materials.

MARVEL blades can be tensioned from 200% to 300% more taut than ordinary blades. This advantage permits heavier feed pressures to be used without deflection or fear of breakage.

This rugged cutting tool assures outstanding economy, accuracy, long life and complete safety—it is *unbreakable*.

Ask for MARVEL Blades by name and you can be sure you're getting the best. Leading Industrial Distributors have them in stock. Write for latest Cutting Tool Bulletin.

FB-1021

ARMSTRONG-BLUM MFG. CO.

5700 W. Bloomingdale Ave., Chicago 39, U.S.A.

Manufacturers of the Outstanding MARVEL Metal Saws

See us in Space 1340 Machine Tool Exposition
For More Information Write No. 260 on Place Mark Card—Page 32

Book Reviews

Administrative Organization

By John M. Pfiffner and Frank P. Sherwood
Prentice-Hall \$9.00

This book is a college text that can be equally useful to the purchasing agent interested in sharpening his knowledge of management practices and theory. Main topics covered in the book are organization structure and behavioral analysis as it relates to organization. Every purchasing executive must daily cope with the problems discussed in this book. Needless to say, he should be familiar with basic principles needed to build a good purchasing organization. Also, he should understand his own role within the broader company organization. The authors of this book have drawn upon many other writers in management theory for background information. The end product is a well organized eclectic type text which comprehensively covers its subject.

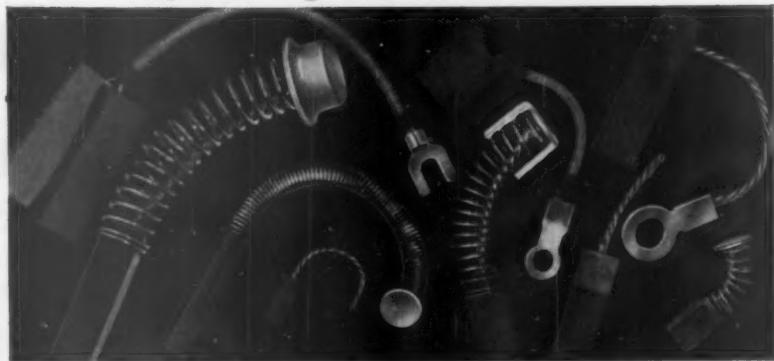
Technical Communication

By George Harwell
Macmillan \$5.00

The purchase executive should be especially able to express himself well. Correspondence with suppliers about complex technical and business problems is part of his day-to-day routine. Top management frequently requires not only reports on special projects but also more general reports on over-all department operations.

Unfortunately, few purchasing executives communicate as well as they should, or would like. They've either never had a good course in English or report writing (most schools are notoriously weak in this area) or they are so many years out of school that they've forgotten many of the principles of English and report writing that they've learned. *Technical Communication* is written with the engineering student in mind but it could readily be applied to the purchasing agent's communication problems which are also technical in nature.

Quality BRUSHES



for any FRACTIONAL H.P. MOTOR



Produced BY THE MILLION



**for leading Motor Manufacturers
for OVER 50 YEARS**

STACKPOLE

STACKPOLE CARBON CO., ST. MARYS, PA.

BRUSHES FOR ALL ROTATING ELECTRICAL EQUIPMENT • ELECTRICAL CONTACTS • GRAPHITE BEARINGS & SEAL RINGS • SLIDE & SNAP SWITCHES • ELECTROCHEMICAL ANODES • ROCKET NOZZLES WELDING & BRAZING TIPS • CERAMIC MAGNETS • FIXED & VARIABLE RESISTORS • FERRITES AND MANY MORE

For More Information Write No. 262 on Place Mark Card—Page 32

Metallurgical Memo from General Electric

GENERAL ELECTRIC
ANNOUNCES

PRE-HONED



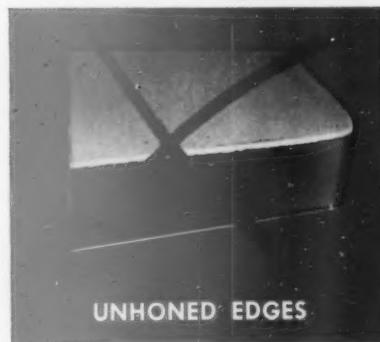
HAND HONING

Hand-honing is inaccurate, time-consuming—often results in premature chipping and breaking.



45° MACHINE CHAMFER

Chamfered, or ground-flat, edges are geometrically weaker than a radius and are more easily chipped or broken.



UNHONED EDGES

Unhoned or as-ground inserts show rough edges—result in unpredictable tool life due to chipping.

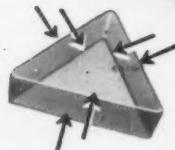
Now you get more predictable tool life... lower cost per cutting edge ... no hand-honing cost!



Pre-honed inserts with uniform, precise honed edges offer top strength; improve tool life predictability.



Additional savings result through the elimination of costly and often inaccurate hand-honing methods.



Because chipping and breaking are minimized, pre-honed Carbolyt inserts result in lower average cost per cutting edge.

TOPS IN TOOLING QUALITY

From the research and quality-control facilities of the Metallurgical Products Department of General Electric comes the outstanding quality tooling line in the metalworking industry. The new Carbolyt pre-honed inserts, as well as the complete line of Carbolyt toolholders, inserts, insert seats, convertible seats, and brazed tooling, are designed to meet every tooling need efficiently and economically.

CARBOLOY[®] INSERTS

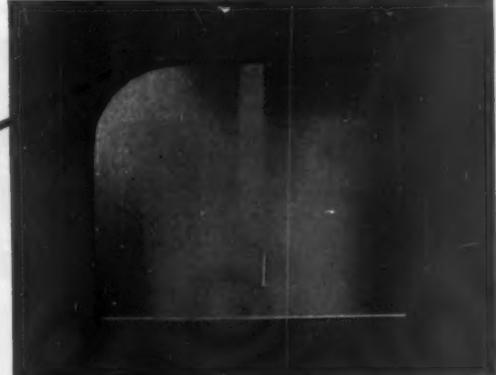
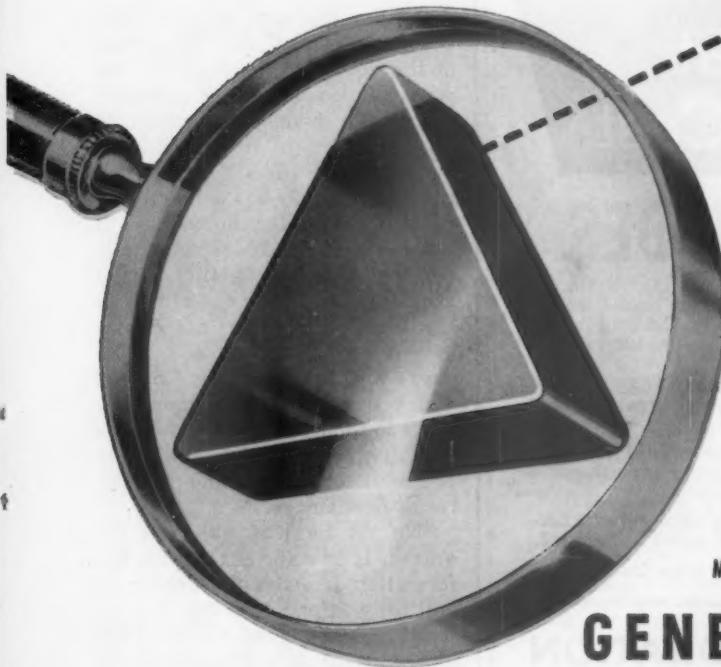
Delivered ready-to-use . . . honed to a precise radius . . . promise BETTER PROFITS THROUGH BETTER TOOLING

Now General Electric Carboloy inserts are pre-honed *at the factory!* Here's what it means to you:

1. An insert with edges honed to precise *radii* gives the strongest geometric shape to withstand cutting pressures. This reduces the chance of chipping—increases the predictability of tool life. Hand honing *cannot* achieve precise radii—G-E pre-honing can . . . and does!
2. Since chipping is minimized, fewer cutting edges are wasted. The result is lower cost per cutting edge.
3. Since inserts come pre-honed and ready-to-use, the labor cost and inaccuracies of hand honing are eliminated. This more than offsets the additional charge for pre-honing.

4. Pre-honed Carboloy cemented carbide inserts have standard edge radii honed to a greater or lesser degree, depending on the job to be done. You'll *know* the honing is right!

Ask your Authorized Carboloy Distributor about pre-honed Carboloy inserts, convertible seats, toolholders, and brazed tools. Or, write directly to: *Metallurgical Products Department of General Electric Company, 11143 E. 8 Mile Street, Detroit 32, Michigan.*



Shown here, both under magnification and graphically, is an edge of the new Carboloy pre-honed insert. Radius is geometrically ideal to minimize chipping, extend tool life many times.

CARBOLOY
CEMENTED CARBIDES

METALLURGICAL PRODUCTS DEPARTMENT

GENERAL ELECTRIC



CARBOLOY[®] CEMENTED CARBIDES • MAN-MADE DIAMONDS • MAGNETIC MATERIALS • THERMISTORS • THYRITE[®] • VACUUM-MELTED ALLOYS

For More Information Write No. 263 on Place Mark Card—Page 32

NEW Turn-Towl cabinet can't ever rust... it's polished aluminum!

"Biggest economy news since the Turn-Towl itself!"



You're looking at the first anodized aluminum cabinet on the market and its built-in advantages: no rust, wear, finger marks — easy to clean.

Thoroughly tested for two years, this polished aluminum Turn-Towl cabinet combines new durability and service with the proven towel control. For the name of your nearest distributor, write Dept. 1100.



Subsidiary of Mosinee Paper Mills Co.

Mosinee Turn-Towl cabinets are leased free for use with Mosinee towels

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Solid Platinum Anode Performance at 1/10th the Cost

PLATANIUM® ANODES

PLATANIUM ANODES, made from titanium mesh coated with a uniform thickness of platinum by the PLATANEX® Plating Process, are equal functionally to solid platinum anodes yet cost less than 1/10th as much.

Thanks to a unique diamond configuration design, PLATANIUM ANODES give maximum anode area while cutting down over-all size 50% or more.

PLATANIUM ANODES are recommended for a wide range of electrolytic operations—from electroplating to refining or chemical processing—wherever insoluble anodes are indicated.

We're in full production and can offer immediate shipment of PLATANIUM ANODES in practically any size or quantity required. Our technical bulletin PLT-1 gives details and price information.

*Trademark, patent applied for.



SEL-REX CORPORATION

NUTLEY 10, NEW JERSEY

The world's largest selling precious metal electroplating processes

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Book Reviews

The Wage-Price Issue

By William G. Bowen

Princeton University Press. \$8.50

Inflation is the most pressing economic problem of our day. Some believe that we are locked in a perpetual wage-price cycle by our policy (which is the law of the land) of having the government intervene in the economy to preserve full employment. Dr. Bowen analyzes in detail the inter-relationship between wages and prices. He examines the apparent alternative between two evils—inflation and unemployment—with which society is apparently confronted. He concludes that it is almost impossible to create a simple solution to the problem of inflation; it is far too complicated. He suggests that the alternative advantages and disadvantages of various public policies be weighed carefully.

Recent Decisions in Purchasing Law

(Continued from page 89)

assignment.

Holding that such an agreement could not affect the obligations of the debtor to the assignee, the court quoted an earlier decision: "While an assignee succeeds to all the rights of the assignor, a debtor is not affected by the assignment until he has notice thereof. If he pays his indebtedness in ignorance of the assignment he is relieved from all liability to the assignee. . . . After the notice of the transfer however, the debtor is put on his guard and if he pays the assignor any money which under the assignment belongs to the assignee, or if he does anything prejudicial to the rights of the latter, he is liable for the resulting damage."

"No set form of notice is required. It is sufficient if such information is given the debtor as will fully inform him that the alleged assignee is the owner of the obligation or as will serve to put him on inquiry."

Adopting this earlier ruling as

authority the court said in conclusion: "Accordingly it is held that the assignee's rights are unaffected by the debtor's failure to pay to Barco all sums owing by it to Barco under the royalty agreement.

"This is of course in line with the basic principle that although an assignee takes no greater right than that of his assignor, once having obtained a valid assignment, on notice to the debtor, the assignor cannot without consent, impair, that right."

Ives v Mars Metal Corporation, 196 N.Y.S. 2d, 247, January 20, 1960

► END

Storekeeping Problems

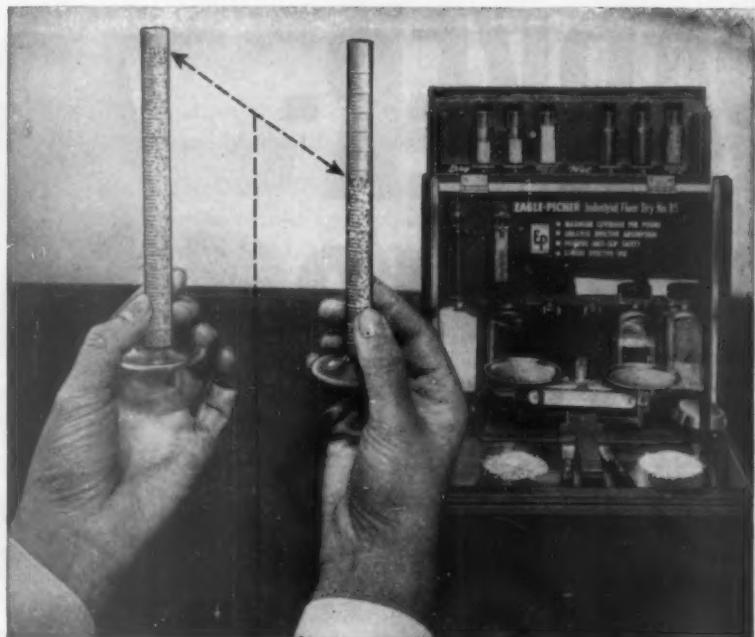
(Continued from page 86)

When invoicing, the original copy of the requisition should be used as the invoice. It is a waste of time and money to write out separate invoices for internal charges between stores and a using department when the original requisition contains all of the information needed except the unit price, which can easily be added.

In using the original copy of the requisition as an invoice, which goes back to the customer, you are leaving no copy for either the storekeeper or accounting. Here is a way to provide the record needed by either. Take a 12-column adding machine—disable the adding mechanism in the first five columns from the left and use these five columns to print the requisition number on a duplicate (original and carbon copy) adding machine tape. Use the last seven columns for the amount of the invoice. Send the original tape with the invoices to the accounting office and let stores keep the duplicate. Make out tapes daily and date them and rubber stamp the invoice with the same date. The accounting office will use the original invoice to post the charges to the user's account and then forward this invoice to him as a notice of the charge made. Both stores and accounting have a copy of the tape as their record.

In case of a complaint from the user about this invoice ask him to return the invoice with his

(Please turn to page 164)



There's a BIG difference in floor absorbents

TEST IT Yourself!

IN YOUR OWN OFFICE, make this simple 15-minute test. Compare Eagle-Picher Industrial Floor-Dry to any other floor absorbent.

HERE'S WHAT YOU'LL PROVE TO YOURSELF about safe, skid-proof Eagle-Picher Floor-Dry: It's extremely insoluble, absorbs more oil and water. It goes further, provides much greater coverage. It reflects more light, brightens the work area. It's non-combustible, has no chemical reaction. It lasts longer, saves you money!



WRITE TODAY. Our Eagle-Picher representative will bring the portable laboratory to your office where you may make this test yourself. The Eagle-Picher Company, Dept. P-815, Cincinnati 1, Ohio.



For More Information Write No. 266 on Place Mark Card—Page 32

For More Information about ad on following page
Write No. 267 on Place Mark Card - pg. 32→

PARKER-KALON'S NEW UNITIZED PACKAGING

Simplifies inventory control!

Speeds stockroom allocations!

Provides easy-to-read labels!





Now when you order your Parker-Kalon fasteners from your Industrial Distributor they will come to you in these new sturdy, easy to handle, easily identified, usable on-the-job **UNITIZED PACKAGES**.

IF YOU ARE A PRODUCTION-QUANTITY PURCHASER, your bulk order will come in the master shipping carton introduced by P-K a short time ago. Known as P-K's **BULK-KEG**, this carton contains from 2,500 to 25,000 pieces, depending upon size and type of fastener.

IF YOU ARE A THOUSAND-AT-A-TIME PURCHASER, you can order the handy P-K GRAND-PAK carton containing 1,000 Pan Head Type A tapping screws in bulk. Or you can have ten Grand-Pak cartons all neatly packaged in a master shipping container.

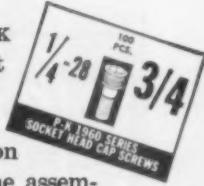
IF YOU ORDER P-K TAPPING SCREWS BY THE GROSS, you get your order in convenient gross packages. If you want ten gross at a time, you get ten 1-gross packages shipped to you in a larger unit P-K carton from which you can take single gross packages as needed.

P-K Socket Screws, Weld Screws, Sems, Staps, Wing Nuts, Thumb Screws, Screwnails and Masonry Nails are also suitably packaged in these new containers. It all adds up to easier ordering, easier stock control, easier use for you.

LOOK AT THIS FOR SPEED AND CONVENIENCE

FIVE NEW LABELS flash an instantly recognizable signal your way . . . now color-coded by type of metal. Type, size, number, head style, finish (plating), and quantity, is printed in clear, big, readable type on every label. There's even an exact drawing of the product pictured on each label.

In your receiving room, the new P-K master container **TELLS** you what and how much it contains. On your stockroom shelf, each carton or each package contained in each carton **TELLS** what and how many. On the assembly line each carton or each package taken from the master carton **TELLS** the user exactly what he has and how many. *Convenience—accuracy—time-saving—all down the line!*



THEY'RE THROWING BOUQUETS OUR WAY . . .
At the recent nationwide container competition, we walked off (proudly) with one of the much-coveted Certificate of Excellence.

[" . . . an outstanding example of progressive packaging," says The Folding Paper Box Association of America]

For Parker-Kalon fasteners and for detailed information on P-K's new **UNITIZED PACKAGING** . . . see your local P-K Distributor.



PARKER-KALON® fasteners

PARKER-KALON, a division of General American Transportation Corporation, Clifton, New Jersey. Offices and warehouses in Chicago and Los Angeles.

Storekeeping Problems

(Continued from page 161)

complaint and you now have the entire record before you. The large mail order houses keep no record of the detail of customers' orders—most of them return the original order to the customer and in the case of complaints ask for these papers to substantiate any claims.

Keeping perpetual inventories is an important problem in storekeeping. The only justifiable purpose of a perpetual inventory is to tell when stock is getting low and the item should be reordered. It is definitely not for the purpose of providing audit control or detecting theft.

Let us assume that at the year end inventory you find a serious discrepancy. You can determine one of two things:

a) A clerical error was made. Maybe you will know who made it and can tell him to be more careful in the future; or

b) You can't find the error so either someone has delivered more of an item than an order

called for—but you don't know to whom—or else some part of the missing quantity has been stolen—but you don't know who did the stealing.

It makes little sense to keep a record which proves as little as this.

There is no need to record dates of withdrawal and requisition numbers. There are many alternate methods of knowing when to reorder an item. For example, you may use the card locator file itself to raise the red flag when the reorder point is reached. With small items, where the entire stock is in a forward stock bin, you may separate the minimum quantity at which the item is to be reordered—either by a cardboard divider or by actually wrapping it up. At United Cigar-Wheal Drug many items were ordered every week by every one of their 1000 stores. This meant 1000 entries per week on an inventory card—it didn't make sense. A system was installed for these items only whereby it was cheaper to actually take an approximate inventory once each

week to see if reordering was necessary. What the inventory girl had to check was not the actual quantity on hand but just that the quantity was above the minimum.

When an item should be reordered there is no need to write out a requisition for the purchasing department or buyer in each case. Most people today use the travelling requisition: a card with a complete purchase record on it, including space for the name, address, terms and last price of up to about six vendors. This is kept at the stores office. If a perpetual inventory card file is kept, this card can be filed back to back with it—or these can be filed separately. When the item is to be reordered the storekeeper merely indicates the quantity wanted in the proper space and forwards the card to the buyer. The buyer now has in front of him not only the quantity wanted but the vendors, prices and purchase record. He places the order and returns the travelling requisition to stores with the purchase order copy.

► END

SKINNER 2-way solenoid valves for high flow, high pressure applications



These two-way solenoid valves handle high flow of air, oil, water, inert gases and other media under high pressure in industrial and commercial applications. They are available to meet the following specifications:

Type—Two-way normally closed, and normally open
Orifice Size— $\frac{1}{4}$ " diameter

Cv Factor—.758

Pipe Size— $\frac{1}{4}$ " NPTF (Dry Seal)

Minimum OPO—5 PSI

Maximum OPO—R2—normally closed—200 PSI AC or DC service

R2H—normally closed—1250 PSI for AC service

R2H6—normally closed—1000 PSI for DC service

RP1—normally open—150 PSI AC or DC service

Temperature Range—Minus 40°F plus 180°F

Voltage—Most AC and DC voltages and frequencies

Leakage—Bubbletight

Internal Parts—Stainless Steel

Body—Forged naval brass

For complete information, contact a Skinner Distributor listed in the Yellow Pages or write us at Dep't. 608.



SKINNER ELECTRIC VALVES

THE CREST OF QUALITY THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT, U.S.A.

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Let SUN SHIP solve your machine problem

When you need machine work or specially built machinery of any kind, you'll find Sun Ship qualified to do the job exactly to your specifications. We have machine tools of every size, and the facilities and skills born of long experience.

When you have a machining problem, write or phone

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Sun SHIPBUILDING & DRY DOCK COMPANY CHESTER, PA.

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FREE BOOKLET SHOWS HOW TRANSITE® PIPE CUTS COSTS IN STORM WATER DRAINAGE & STORM SEWER SYSTEMS

Send for your copy today!



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Box 14, PU-8, New York 16, N. Y.

Please send me, without obligation, your facts and data booklet on Transite Pipe Storm Water Drainage and Storm Sewer Systems.

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AUGUST 15, 1960

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Special shapes or standard, rigid or flexible, in diameters from $\frac{1}{2}$ " to 16". Our engineers have developed advanced techniques that can save time and money on the right shape for your specific needs.



SPECIAL SHAPES

We extrude any shape in a variety of formulations to meet a wide range of design and performance requirements. Our complete tool and die shop is staffed with skilled technicians. We maintain a library of more than 400 section dies, one of which may fit your product design.

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We shape, flatten, curve, swedge, drill and perform other fabricating operations to make plastic parts ready for your production lines. Close tolerance, absolute uniformity, dimensional stability and high-gloss finish are standard production requirements at Yardley.



Write for Bulletin 180 — and for
prompt quotation send us your prints



YARDLEY PLASTICS CO.

140-144 PARSONS AVE., COLUMBUS 15, OHIO

For More Information Write No. 271 on Place Mark Card—Page 32

Purchasing People In The News

(Continued from page 59) many of the important space programs contracted for by the Air Force Ballistic Missile Division. Prior to working for the Air



John H. McLachlin

Force, Mr. McLachlin was with Richfield Oil Company in Southern Calif.

Charles Spannello has been named director of purchases for Schering Corporation, he will headquartered at Union, N. J. He succeeds Ordine C. Ferris who died. Mr. Spannello joined Scher-



Charles Spannello

ing in 1948 as factory production manager. In 1951 he became operations supervisor. He was named

packaging manager in 1955 and manager of pharmaceutical production in 1956. He is a graduate of Columbia University with a degree in pharmaceutical chemistry.

Joseph M. Ashmore, Jr., has joined Tumb-L-Matic, Inc., Stamford, Conn., as vice president in charge of purchasing. Mr. Ashmore was formerly a research technician with the S.K.F. Industries, Inc., Philadelphia, Pa. He was also connected with the Pennsylvania Railroad as a block operator, controlling traffic. He is



Joseph M. Ashmore, Jr.

a graduate of Temple Technical University, Philadelphia, Penna. where he received an Associate in Science degree. Following his graduation from Temple Technical, he studied at LaSalle College, Philadelphia, Pa., for a two year period majoring in electronics.

Swift & Company, Chicago, Ill., has named Robert W. Reneker to head the purchasing and transportation departments of the company. He succeeds E. A. Moss, vice-president, who has retired. Mr. Reneker joined Swift in 1934 in the purchasing department, later had purchasing assignments in Kansas City and Chicago, and

then served as Mr. Moss' assistant. Later he served on the staff of president of the company. He

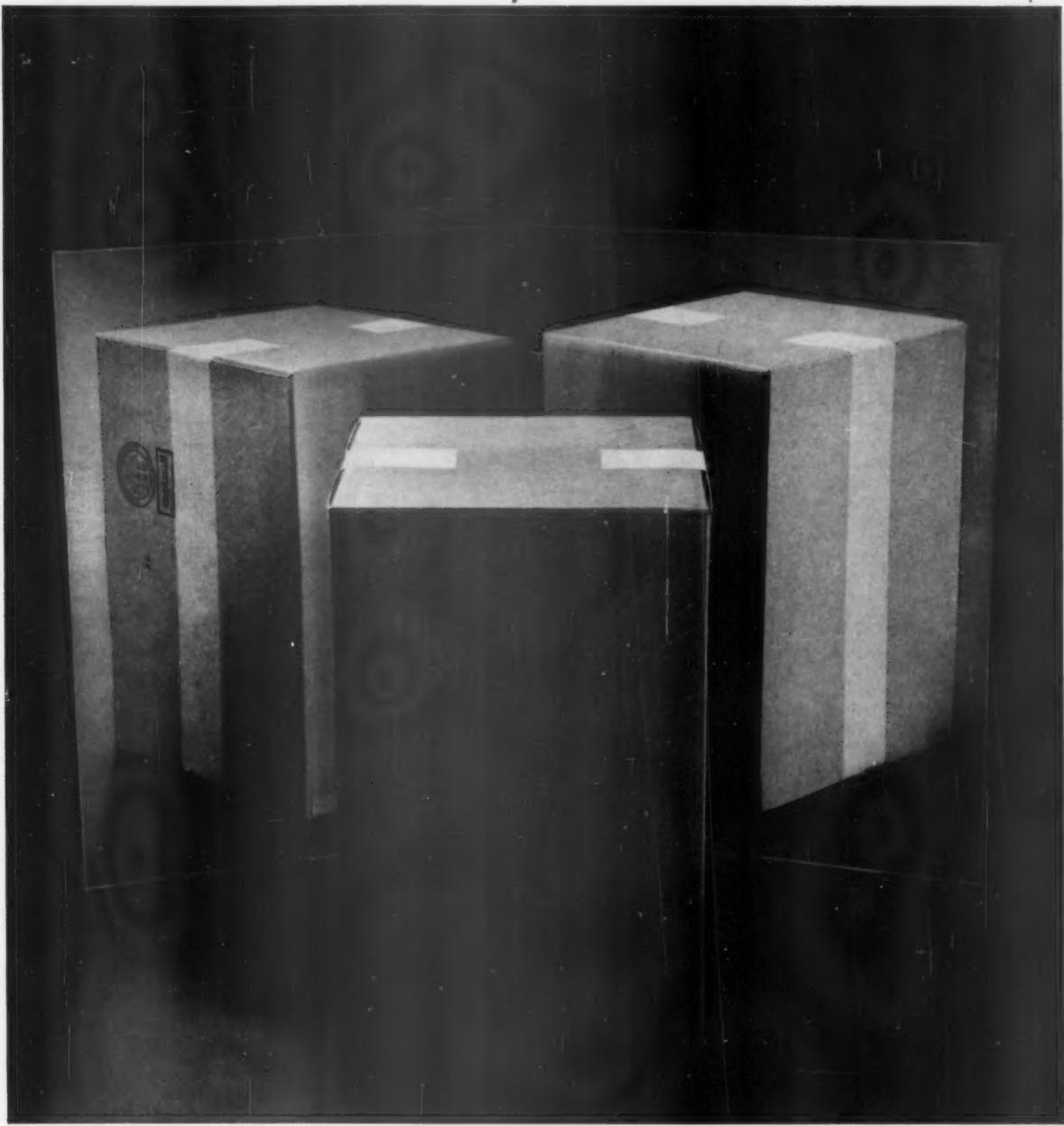


R. W. Reneker

was elected vice-president in 1955 and director in 1959. He holds a Ph.B. degree from the University of Chicago School of Business.

Chrysler Corporation, Detroit, Mich., has made the following appointments: **John D. Moran** was named director of purchasing administration services. **Richard D. Morrison** was named purchasing agent for materials and services purchasing.

Mr. Moran had been director of purchasing programming since 1957. Prior to that he was corporate director of organization and has served on the staff of the first vice president. In his new position he will be responsible for purchasing research, procurement programming and administration activities. He attended Wayne State University. Mr. Morrison had been purchasing agent for raw materials since 1959. He joined Chrysler Corporation in 1957, as executive assistant to the director of purchasing. In this new position he will be responsible for raw materials and scrap, non-production purchasing and by-products activities. Mr. Morrison attended Wayne State University.



Reflecting a better way to seal a package

Two-Strip sealing with TROJAN CORD TAPE is faster, . . . bonds better! That's because G-50 in Trojan Cord Tape's exclusive adhesive formula gives you instantaneous adhesion with the greatest possible holding power. And . . . bidirectional reinforcement with strong glass fibres exceeds all requirements of Rule 41, Uniform Freight Classification.

Trojan Cord Tape is "Flexoned"® to give you ease of handling at production line speeds. Its strength plus flexibility makes it the perfect tape for 2-Strip sealing.

Trojan Cord Tape is double-packaged to assure mill-freshness when you receive it. Available in both asphaltic and non-asphaltic grades, printed and in a choice of colors. Next time you re-order, specify Trojan Cord Tape...made for 2-Strip sealing!



Watch for Trojan Cord Tape
in its bright new carton!

The Gummed Products Company

Division of St. Regis Paper Company • Troy, Ohio

For More Information Write No. 272 on Place Mark Card—Page 32

AUGUST 15, 1960

167

Employment Service

Experience: Buyer — capital goods — plant equipment. Also division buyer for materials for various divisions of large electronic manufacturer. Previously production superintendent—dry electrolytics.

Education: 2 years civil engineering—3 years bus. adm.
Will relocate: New England.
Write: Box 225

Experience: Fourteen years as purchasing agent and buyer. Have purchased chemicals, drugs, film, inks, paper, metals, office supplies, and MRO supplies. Responsible for control of inventory and expediting.

Education: College grad. chemical degree.
Will relocate.
Write: Box 227

Experience: Eleven yrs. corporate pur. mg'mt., three yrs. mgr. of pur., six yrs. asst. p.a. & four yrs. buyer with three companies. Involved indust. pur. for: rubber, textile, auto., metals fabr. & chem. industries; and md'se. buying for resale. Includes foreign pur. and Gov't. contracts. Trained to analyze, plan, organize and implement modern pur. techniques at corp. level in small & large operations with multi-autonomous divisions.

Education: University courses: economics, acc'tg., & purchasing—no degree. Special evening university studies in value analysis, standardization, commodity buying, pur. mg'mt. & evaluating pur. performance.

Will relocate. Prefer West Coast.
Write: Box 228

Experience: Young and energetic man with five years diversified experience through corporate management training program. Training in credit collection, traffic, inventory production control, purchasing. Presently responsible for multiplant corporate expenditures including nonproductive supplies.

Education: B.A. degree—major in personnel and minor in psychology. One year law school and many other evening courses.

Will relocate—now residing in Ohio.
Write: Box 229

Experience: Presently employed as industrial traffic manager for large southeastern chemical distributor. Formerly assistant traffic manager of major East-South motor carrier. Age 34.

Education: B.S. bus. adm.—major transportation.
Will relocate: N. Y. or N. J. area.
Write: Box 230

Experience: Twenty years intensive and diversified procurement experience. Presently a buyer, wide and varied experience in research and standardization, buying raw materials, parts, metals, electrical and electronic components, instruments, castings, chemicals, sub contracting, office and plant supplies, Packaging material.

Education: Four years high school—(Aviation) Airplane Engine Mechanic School—United States Air Force (World War Two.)

Will relocate.
Write: Box 231

Experience: Six years experience as industrial purchaser, retail buyer and manager. Knowledge of printing, packaging materials and of candy manufacturing and ingredients. Capable administrator and supervisor.

Education: B.B.A. (merchandising)—M.B.A. (marketing, finance—upon completion of thesis).
New York City, metropolitan area.
Write: Box 232

Experience: Eight years procurement experience, four years as contract administrator in instrumentation and control procurement for Naval atomic program, four years as general buyer for electrical manufacturer with all types of procurement. Understand production control, research and development, production procurement.

Education: B.S. in bus. adm.—M.L. in management and economics.

Will relocate.
Write: Box 234

Experience: 15 yrs. heavy purchasing as a purch. agent with multi-plant chem. company. Also 5 yrs. with metal mfg'r. Knowledge of sub contracting, estimating, inventory control, expediting, engineering liaison, exp. in raw materials chemical & non ferrous & ferrous metals, mach. & equip., M.R.O., welding supplies, laboratory supplies, office equip., packing & shipping supplies, O.E.M. of plastic machinery & equipment.

Education: Age 38—College preparatory high school graduate. Graduate courses in mechanical and architectural drafting and design.

Will relocate.
Write: Box 230

Experience: Eighteen years military and commercial supply, transportation and contract management, covering procurement, inventory control, traffic, production control, storage, accounting, contract negotiation and administration and budget functions. Strong in developing methods and employees. Seeking management or senior staff position with challenge.

Education: B.A. in bus. adm. Courses in AMA, USAF Logistics, Columbia Graduate School and others. Have established training schools for USAF and industry. Presently teaching human relations.

Will relocate.
Write: Box 233

Experience: Seven years a.p.a. with automotive parts supplier; three years as buyer for electronic communication equipment manufacturer. Procurement experience MRO supplies, metals, fasteners, adhesives, hardware, textiles, packaging, electronic components, office supplies, tooling, and capital equipment. Also six years traffic management.

Education: B. A. chemistry. Graduate work business management and personnel administration.

Will relocate.
Write: Box 236

HOW TO APPLY

Listings in this department are offered without charge. Both purchasing department personnel interested in changing jobs and employers in search of replacement or additions to their departments may take advantage of this service. When writing, specify whether you want the applicant's form or the employer's form. Address all correspondence — whether for forms, or in answer to an employment advertisement, to: Box No. Employment Service Department. Purchasing Magazine, 205 East 42nd Street, New York.

Experience: Ten years diversified experience consumer products in multi plant and single medium operations. Twenty million dollars yearly packaging and edible raw materials. Strong administrator, staff and line functions. Production and marketing awareness, commodity futures, controls, systems, cost conscious.

Education: 2 years college bus. adm. financial analysis and personnel courses.
Write: Box 237



PHOTOGRAPH COURTESY OF SPERRY GYROSCOPE COMPANY

This is where Bal-SAFE extra impact resistance pays off...

The jagged metal strikes like a bullet. Luckily this worker was wearing his safety glasses. More than luck, though... they were Bausch & Lomb Safety Glasses with Bal-SAFE lenses.

More than luck... foresight! Your foresight in specifying Bal-SAFE lenses for that *extra* margin of safety... as much as 14 times more impact resistance than required by government standards. In an exclusive Bal-SAFE toughening process Bausch & Lomb employs a unique large-orifice air chill, using a generous quantity of air at carefully controlled temperature. The result is Bal-SAFE exceptional im-

pact resistance. Priceless extra protection for which you pay not a penny more.

Are *all* your workers so protected? For details on B&L Safety Eyewear, and the quickest, easiest way to detect those who need Bal-SAFE prescription lenses, call your B&L supplier. Or write to Bausch & Lomb, 90608 Lomb Park, Rochester 2, New York.

BAUSCH & LOMB



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Safety Products**

protection + economy + worker acceptance

For More Information Write No. 273 on Place Mark Card—Page 32

Advertisers In This Issue

A

Acme Visible Records, Inc.	133
Aero Mayflower Transit Co.	33
Alan Wood Steel Company	36
Allegheny Ludlum Steel Corp.	14
Allen Mfg. Co.	96
Aluminum Company of America	142, 143
American Brass Co., The	58
American Chain & Cable Company, Inc., Wire Rope Sling Dept.	109
American Hard Rubber Company, Division of Amerace Corp.	25
American Insulator Corporation	148
American Steel & Wire Co.	98, 99
American Telephone & Telegraph Co.	131
American Viscose Corporation	41
Ames Co., B. C.	156
Anaconda Copper Mining Co. & Subsid. Cos.	58
Armstrong-Blum Manufacturing Company	156
Armstrong Cork Company	139

B

Bausch & Lomb Optical Co.	169
Bay West Paper Co.	160
Bethlehem Steel Co.	106, 107
Boston Gear Works	43
Bound Brook Oil-Less Bearing Co.	97
Bristol Brass Corp., The	42
Brown Paper Co., L. L.	133
Buffalo Forge Company	114, 115
Bulldog Electric Products Division, I-T-E Circuit Breaker Company	101

C

Century Electric Company	1
Chandler Products Corp.	31
Cleveland Container Co., The	46
Columbia-Geneva Steel Div.	98, 99
Columbia Southern Chemical Corp.	34, 35
Conover-Mast Purchasing Directory	134
Container Corporation of America	155
Continental Diamond Fibre, Div. of the Budd Co., Inc.	56
Copperweld Steel Co., Ohio Seamless Tube Division	10, 26
Crane Company	54, 55
Crucible Steel Company of America	116, 117

D

Dana Corp.	16
De Laval Steam Turbine Co.	150, 151
Deluxe Metal Products Co., Div. of Royal Metal Mfg. Co.	135
Detrex Chemical Industries, Inc.	49
Diamond Chain Co., Inc.	6
Dodge Manufacturing Corp.	110, 111
Dow Chemical Co., The	53

E

Eagle-Picher Co., The	161
Eastern Air Lines	153
Eastman Kodak Company	129
Eaton Mfg. Co., Reliance Division	64
Emerson Electric of St. Louis	38
Erie Bolt & Nut Company	149
Ever Ready Label Corp.	50
Ex-Cell-O Corporation	60, 61

F

Fafnir Bearing Co.	12
Fischer Special Mfg. Co.	122
Fort Howard Paper Company	47
Foster Company, L. B.	102
Fuller Company	94

G

Gates Rubber Company	18
General Electric Company, Metallurgical Products Dept.	158, 159
General Pencil Co.	132
Graphic Controls Corporation	29
Graybar Electric Co., Inc.	4

H

Hamilton Foundry, Inc.	100
Hardinge Brothers, Inc.	23
Hyatt Bearing Div., General Motors Corp.	37

International Nickel Co., Inc., The	66
Island Creek Coal Sales Company, The	20

Jenkins Bros.	4th Cover
Johns Manville Corp., Transite Pipe Div.	165
Jones & Laughlin Corp., Wire Rope Division	126, 127

Lamb Electric Company, The	153
Lancaster Glass Corp.	120
Ludlow Papers, Inc.	152

Manning, Maxwell & Moore, Inc.	40
Marsh Instrument Co., Division of Colorado Oil & Gas Corp.	152
Meehanite Metal Corporation	145
Morse Twist Drill & Machine Company	2

National Screw & Mfg. Co.	172
Newark Wire Cloth Company	63
Northern Natural Gas Company	65

Ohio Rubber Company	3
Ohio Seamless Tube Division of Copperweld Steel Co.	26
Olin Mathieson Chemical Corp.	8

Parker-Kalon Division, General Amer. Trans. Corp.	162, 163
Perrygraf Corporation	144
Polymer Corp. of Penn. The	118

P

Railway Express Agency, Inc.	28
Republic Rubber Div.	62
Reynolds Metals Company	24
Ridge Tool Company, The	95
Riverside Alloy Metal Division of H. K. Porter Company	154
Rochester Products, Division of General Motors	51
Rockwell Mfg. Co., Delta Power Tool Div.	123
Roll Formed Products Co.	39
Rome Cable Corporation	136, 137
R-P & C Valve Division of American Chain & Cable Co.	171
Russell, Burdsall & Ward Bolt & Nut Company	119
Ryerson & Son, Inc., Joseph T.	68

S

St. Regis Paper Co., Container Division	112, 113
Gummed Products	167
Sandsteel Spring Division of Sandvik Steel, Inc.	149
Sandvik Steel, Inc.	52
Scovill Manufacturing Company	103, 104
Sel-Rex Corporation	160
Shell Oil Company	2nd Cover
Skinner Electric Valve	164
Square D Company	3rd Cover
Stackpole Carbon Co., Carbon Div.	157
Standard Pressed Steel Company	48, 125
Sugar Beet Products	124
Sun Shipbuilding & Dry Dock Company	164
Superior Steel Division, Copperweld Steel Company	93

T

Tennessee Coal & Iron Div.	98, 99
Thermoid Division, H. K. Porter Company, Inc.	92
Tinnerman Products, Inc.	57

U

Udylite Corporation	32
United States Rubber Company	45
United States Steel Export Co.	98, 99
Utica Drop Forge & Tool Division of Kelsey-Hayes Co.	108

V

Wear Proof Mat Co.	144
Weirton Steel Company	30
Wellington Sears Company	105
Wheeling Steel Corp.	146, 147
Whitney Chain Co.	141
Wolverine Tube	22

Y

Yardley Plastics Co.	165
Youngstown Sheet & Tube Co.	121

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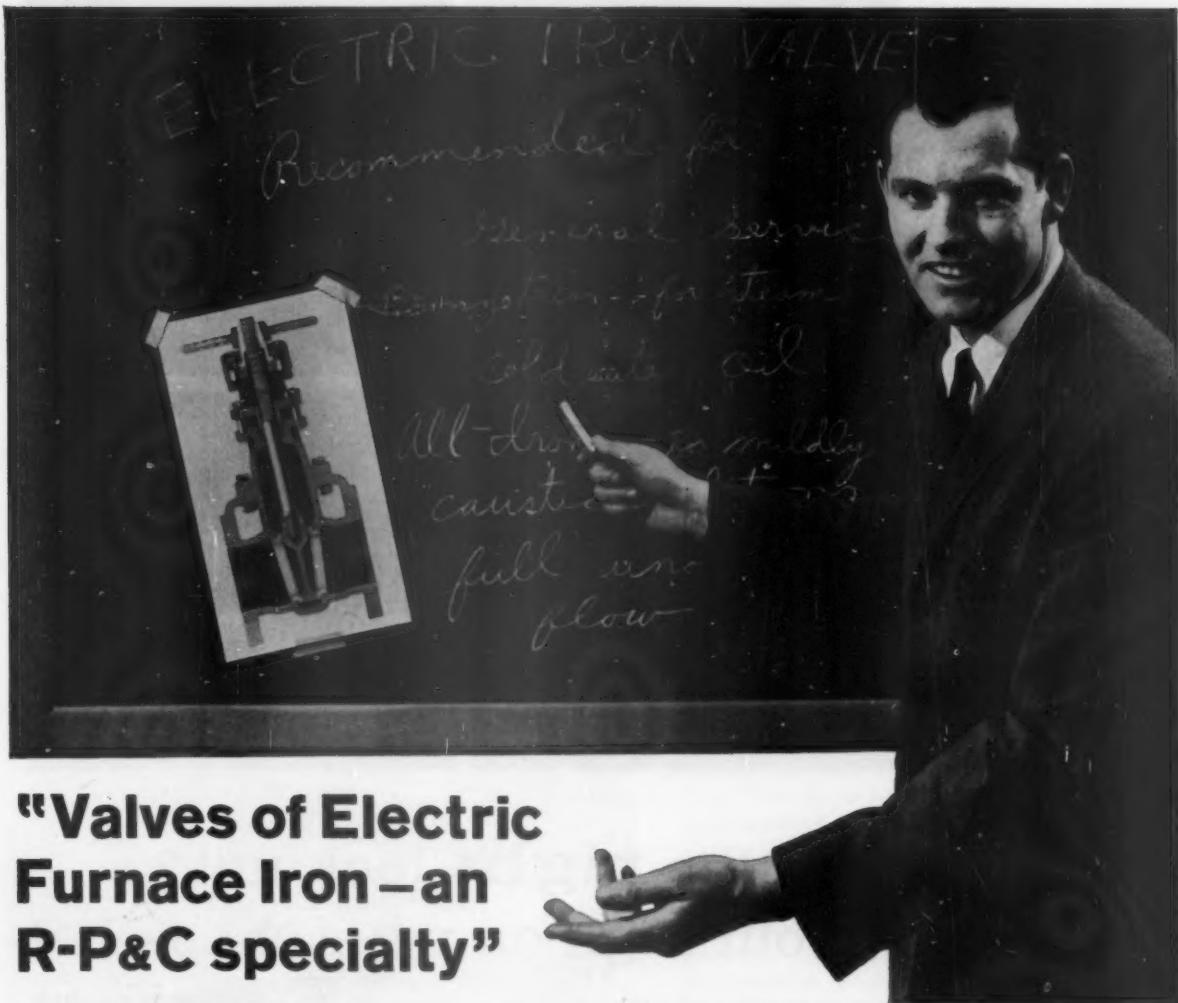
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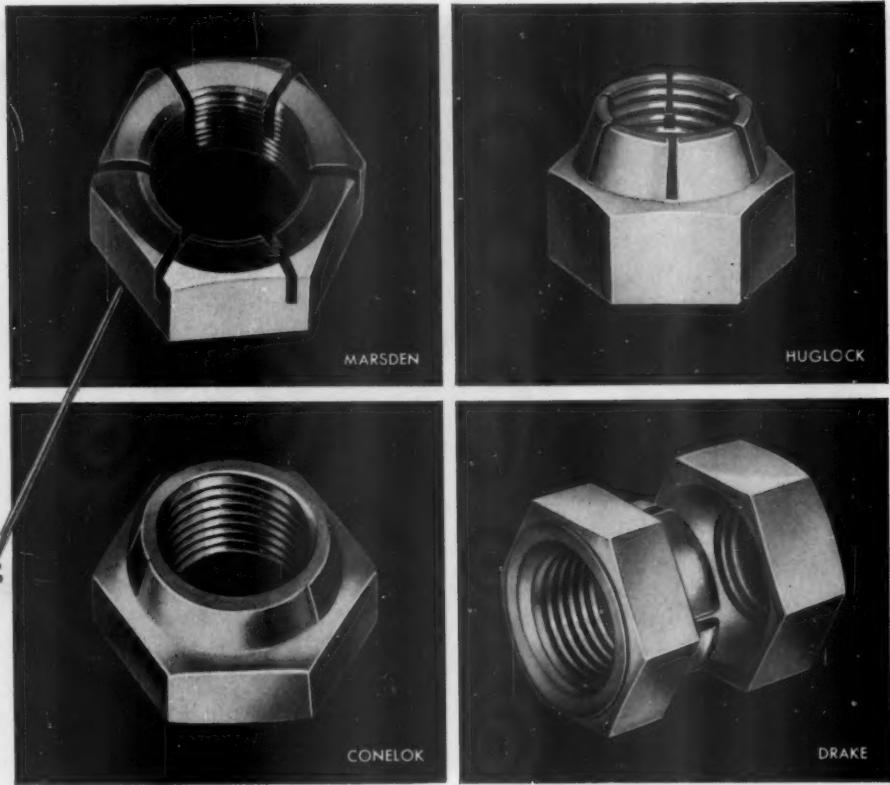
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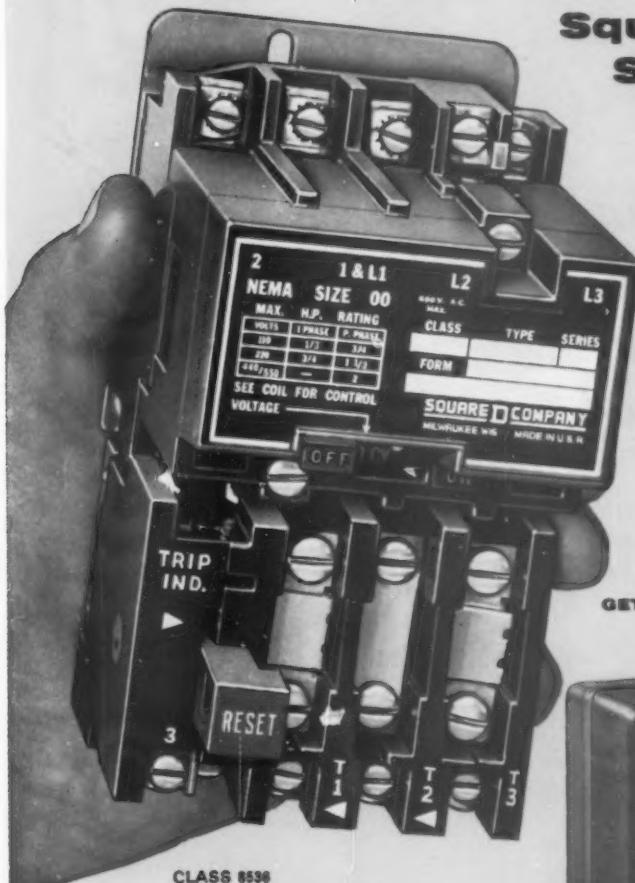
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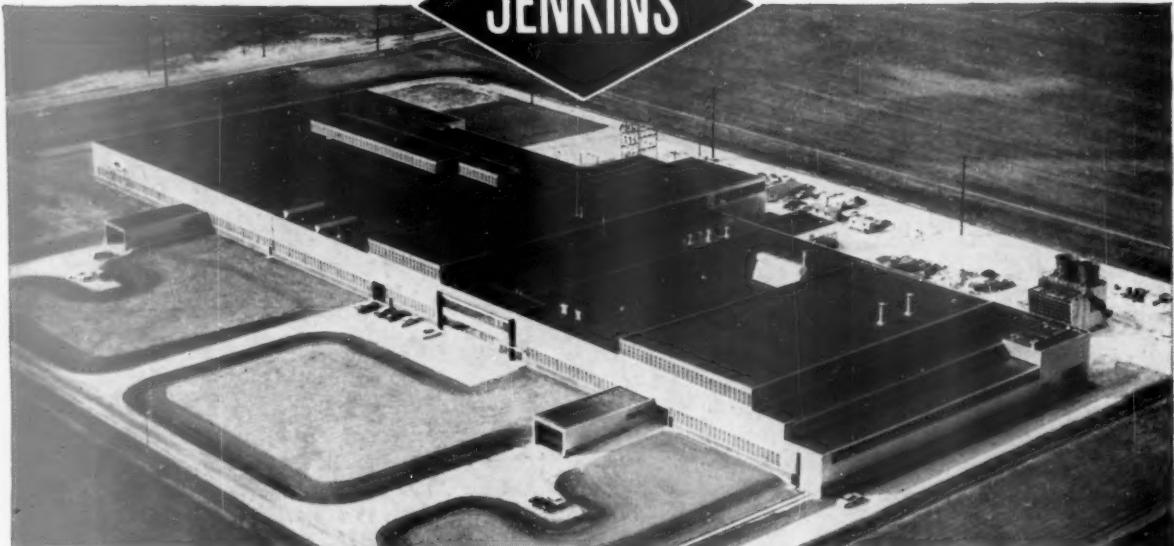
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